

# BUSINESS WEEK

YEAR  
AGO

WEEK  
AGO

START  
OF WAR  
1939



The Fords issue their challenge: a new low-priced car.

WEEK  
BUSINESS  
WEEK  
INDEX

TWENTY CENTS • PUBLISHED BY THE MCGRAW-HILL



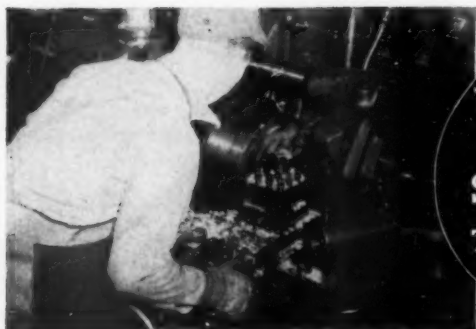
# Gangway for an American!

**I**N uniform he made the "master race" fear him. In factory overalls he told the racketeer leader where to go, and produced twice as much as ever before. In white collar he planned and managed the production without which we would have lost the war. In other words, the true American.

Are you going to keep such a man quiet with a dole instead of an opportunity—with regulations instead of liberty—with coercion instead of cooperation? Pity anyone who thinks so!

Here comes an American—millions of them. And when they burst on a peacetime nation, there will be such a release of pent-up American energy as this world never saw. They'll want and will demand opportunity that lets the hard worker reach the level of the highest. Regimentation? Out of the way! Defeatism? Who said so? Coercion? Better not try it!

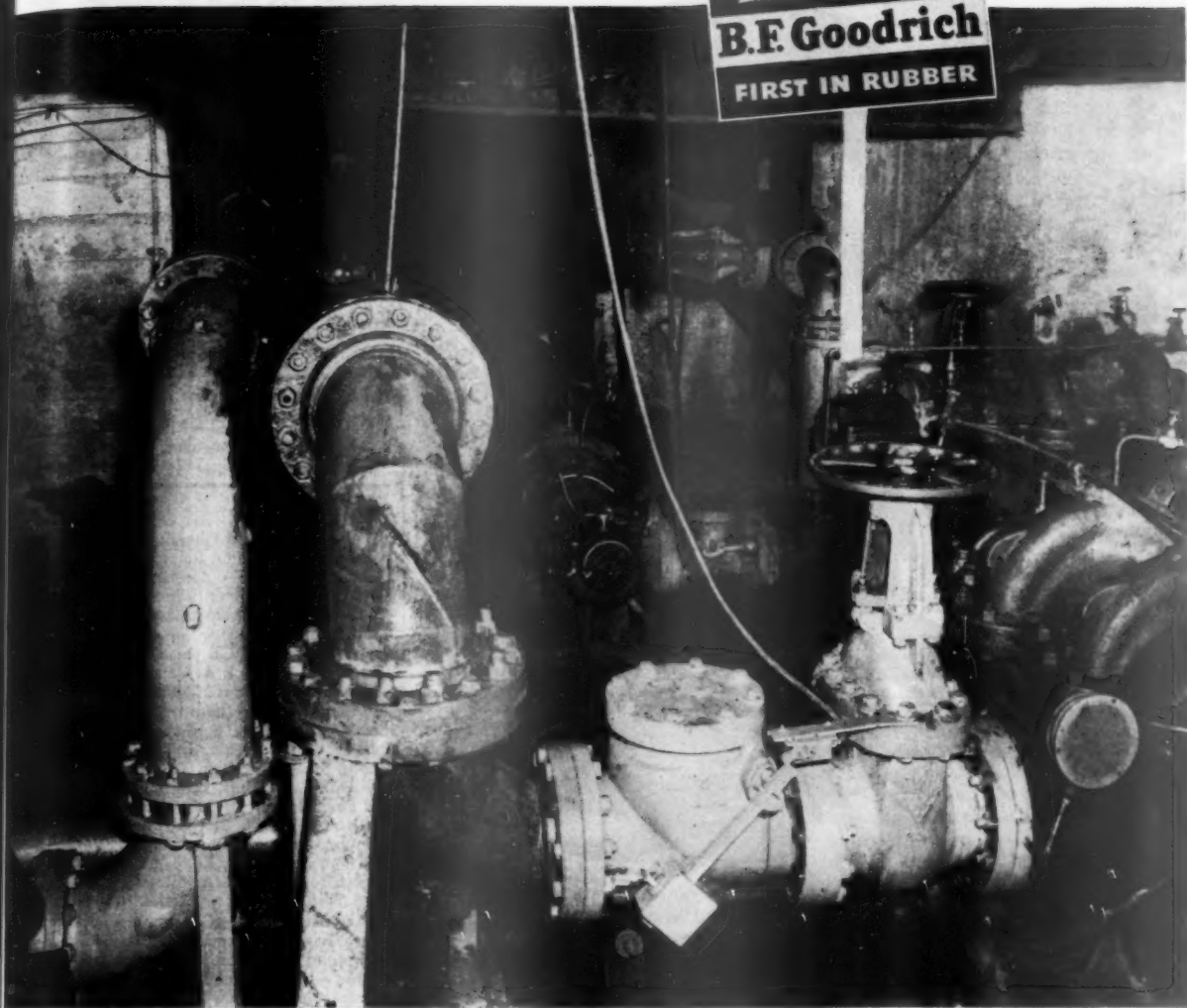
This is the land of opportunity, and these are the men who have earned it. Gangway for an American!



**WARNER  
&  
SWASEY**  
Turret Lathes  
*Cleveland*

YOU CAN MACHINE IT BETTER, FASTER, FOR LESS... WITH A WARNER & SWASEY

*In war or peace*  
**B.F. Goodrich**  
**FIRST IN RUBBER**



## Pipes gulp acid water to save a coal mine

*A typical example of B. F. Goodrich development in rubber*

AT THIS mine in Pennsylvania there's a good coal—450 feet down—but even more water. A few years ago they almost lost the mine—the pipes, for pumping the water out, had corroded, because the water contains acid, and in three days enough water could pour in to flood the underground pumps and lose the mine for months—make salvage almost impossible.

The mine owner had heard that chemical plants use pipe lined with B. F. Goodrich rubber to handle strong

acids. He investigated, bought the same pipe, and has never been in danger of losing his mine since. Metal pipe used to last 7 months; the B. F. Goodrich pipe has now been in use 48 months and is as good as new. In that time it has handled more than 10 billion gallons of acid water.

Many B. F. Goodrich developments, made for one industry, are applied as this was to an entirely different field with equally good results. Research is continuous at B. F. Goodrich, and applies to every kind of rubber product,

new or old. No product is too standardized to be improved or changed to meet changing needs of users. B. F. Goodrich distributors can tell you about those improvements in products your company already uses or *might* use. If you don't know the name of the distributor nearest you, write direct about any problem you have that rubber might solve. *The B. F. Goodrich Company, Industrial Products Division, Akron, Ohio.*

**B.F. Goodrich**  
RUBBER and SYNTHETIC products



## ENTREPRENEUR

The newsboy on the corner and the owner of a business have this in common. Both have invested their capital in a business with the hope of making a profit.

By offering a reasonable chance for a fair profit, the Free Enterprise system encourages business men, big and small, to take the risks which are necessary to start new businesses and to develop new products. From these come new industries, more jobs and a better standard of living.

**SKF**  
BALL AND ROLLER  
BEARINGS

**SKF INDUSTRIES, INC., PHILA., PA.**



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## Light in the Doldrums

about everyone in Washington looking on eggs. Any plan that is forward is dated Nov. 7, V-E Day, and 20—nothing for today.

Decisions on wage increases, for example, have been put over until after voters record their decision Nov. 7. Conversion policy—aside from not-too-important pulling and dragging—is stymied behind V-E Day.

OPA has a continuing argument on hands about prices on civilian reversion goods until the wage and reversion issues are set. And the ordinariness of Washington business in the downtown bureaus and most particularly on Capitol Hill is waiting on who will be inaugurated Jan. 20.

But to impede business planning a further, there are a few matters of such as postwar taxation, that will be seriously considered until after war is cleaned up on both fronts.

## Conversion in Line of Fire

Assets in the military timetable make V-E Day look a good deal better off than it seemed two months ago. But WPB's reconversion program is particularly tough spot. The entrenched inertia means that everybody in and outside the board has got time to make potshots at it now. The only way to be sure of keeping a major program intact in Washington is to keep it going as soon as it loses momentum it comes a sitting target.

## Civilian Goods Priorities

The touchiest point in the V-E Day as it now stands is the simplified priority system that would take effect as Germany goes under. This process for a single rating reserved for the military and an AAA emergency rating would be used for breaking particular bottlenecks. Civilian goods manufacturers, under the plan, are to get no priorities; they'll have to scramble for what's left. For the past two months, representatives of civilian goods industries with a claim to essentiality have been arguing for a second priority band, a junior rating that would put them behind the military but ahead of nonessential industries.

They have got sympathy from Program Vice-Chairman S. W. Anderson and from some officials in the Office of Civilian Requirements. OCR is afraid that essential civilian producers will

get lost in the rush if all controls come off at once.

There has been some speculation in WPB that once the reconversion program gets going, OCR will be closed out as a separate agency.

## Tax Writeoff System Ready

WPB now has its machinery set up to issue certificates of nonnecessity—the permits that will entitle war contractors to special tax writeoffs when emergency facilities that they have built are no longer needed. Authority over certificates of nonnecessity was transferred to WPB by executive order after the Army and Navy had failed for two years to get together on a procedure for issuing them (BW—Oct. 7 '44, p. 5).

WPB filled out its hand this week by

getting two more executive orders covering special amortization of emergency facilities. One gives it the authority to amend the original certificates of necessity, which qualify a contractor to charge off emergency facilities in five years or the duration of their use, whichever is shorter. The other authorizes WPB to issue payment certificates which will give tax-free status to payments that the government makes for the unamortized cost of emergency facilities no longer needed.

## Termination Idea Dropped

Army procurement officers have scrapped the idea of writing a provision for lump-sum termination settlements into contracts. The Army experimented with the proposal for several months,

## Reconversion Pricing Plan Takes Form

OPA will shortly give its district offices specific instructions on how to price reconversion goods. The agency had planned to withhold a reconversion pricing formula until after V-E Day, but pressure from field representatives who are now meeting reconversion pricing problems at the grass roots is forcing adoption of a yardstick before the rush which will follow V-E Day.

• **Only Tentative**—The formula OPA plans to give district offices is still regarded as tentative, however. (For this reason, it will not be widely publicized.) Further polishing is expected as a result of actual experience.

As a matter of fact, OPA is on the brink of abandoning the idea of a single, simple formula which can be widely applied. Modifications will be made to meet the needs of individual industries and particular circumstances. Thus, after a few months, OPA may wake up to find that a set of reconversion pricing standards has just grown up—much as wartime price control standards developed gradually over the past two or three years.

• **Kinks Disclosed**—OPA has given its reconversion pricing formula a test run by applying it experimentally to a number of industries which have been under price control throughout the war, and has found that it yields

somewhat higher prices than those which the industries have under present ceilings.

This means that, at worst, reconversion pricing will be no tighter than existing controls. The tryouts also served to show up a few kinks that OPA expects to have to iron out.

• **Exemption Doubted**—Price officials now doubt that it will be possible to exempt small companies from price regulation entirely (BW—Sep. 23 '44, p. 88), but they will be subject to very simple controls. The big hitch to easing the little fellow's burden, OPA has found, is that he is often a supplier of a bigger fellow.

The hullabaloo over a reconversion pricing formula has obscured the fact that a good deal of reconversion pricing has already been accomplished, in some cases by an agreement by manufacturers to come back into production at 1942 prices (electric irons, electric stoves, some aluminum cooking ware), in some cases by an increase over 1942 prices based on standards particularly adapted to the need of an individual industry (pianos, shotguns). Where the need has been urgent, field offices have managed to adapt existing standards to reconversion goods, in pricing the products of individual manufacturers.

# For Jeeps Today...for Jills Tomorrow



**T**HINK of dynamite as controlled force for economical, efficient production and you define the peace-time role of commercial explosives.

For example, the steel that goes into the Jeeps of today, that will be used in the myriad appliances in Jills' homes of tomorrow, depends on high calcium limestone for its purifying. Quarrying that limestone by using the right explosive applied in the right way is an important item in low-cost production of high-grade steel.

The scientific application of explosives gives precision results, not only in quarrying, but in mining, construction, logging and innumerable operations where controlled force is essential to the job. Atlas makes over one hundred grades of explosives and Atlas methods have evolved

highly specialized techniques to yield sometimes incredible blasting results.

Experience, knowledge and research have equipped Atlas engineers with a great stockpile of ideas which customers continually tap to solve knotty problems of their own.

The Atlas stockpile of ideas extends beyond the use of explosives . . . it involves every product in the Atlas family—emulsifiers, humectants, product finishes, coated fabrics, activated carbons and other industrial chemicals.

It is well worth while to explore the Atlas stockpile of ideas. We would like the opportunity to sit down on the same side of the table to discuss your problems which may come within the scope of our efforts.



# ATLAS

**POWDER COMPANY**  
WILMINGTON 99, DELAWARE  
Offices in Principal Cities

Industrial Explosives • Industrial Finishes • Coated Fabrics • Acids  
Activated Carbons • Industrial Chemicals • Ordnance Materiel

it could avoid termination head-on in some cases by agreeing at the time the contract was signed on the amount to be paid in case of termination—Jul.1'44,p5).

Procurement officers found that all contracts were too complicated to give an accurate forecast of termination expenses. With the development of a new pretermination planning system (page 21), they finally discarded the old plan entirely.

## Repricing Defied, Plant Seized

Government seizure of the Lord Mfg. plant at Erie, Pa., climaxes the use of the extensive repricing power given the procurement agencies by the 1943 revenue act.

Two months ago the Army and Navy raised prices for Lord after attempts to force prices by negotiation had broken down (BW—Oct.7'44,p20). Officials alleged that Lord refused to deliver its product—rubber engine and instrument parts—at the specified prices. This time President Roosevelt ordered the Army to take over Lord's plant.

Under the law, the Army or Navy can order a manufacturer to supply products at a specified price, regardless of the contract. The contractor must comply with the order under penalty of having his plant taken over, but may appeal to the courts for a better price. The Lord case is the only one, so far, where procurement officers have issued a mandatory order.

## Get Paris Passports

Though the first American businessmen to receive passports to France under this week's limited reopening of commercial traffic have already arrived in Paris, hundreds of other applicants are crowding Washington hotels are hoping of getting away soon.

The State Dept. specifies that only applicants whose business contributes directly to the war effort will be granted passports. But, more discouraging, no new transportation facilities are being provided and present limited air and ship routes are already crowded.

## Radio Sales Questioned

Only Congress can answer policy questions raised by the high prices at which radio stations are changing hands (BW—Jun.10'44,p82) and Congress

probably will not answer them until next year. Last July James Lawrence Fly, chairman of the Federal Communications Commission, asked guidance in letters to Chairman Burton K. Wheeler of the Senate Interstate Commerce Committee and Chairman Clarence Lea of the House Interstate Commerce Committee.

Could excessive prices of station sales be regarded as trafficking in wavelengths, which are deemed to be public property? The FCC wants to know.

FCC Commissioner C. J. Durr, a left-winger, holds that FCC has authority, under the present law, to consider price a cause for disapproving transfer. Lea said this week that it's a legislative

problem, but neither he nor Wheeler has replied to Fly's letter. Nor is Congress likely to act in the lame-duck session after election day.

## WHKC Yields to U.A.W.

The Federal Communications Commission has halted the license-revocation proceedings against radio station WHKC, Columbus, Ohio, accused by the C.I.O. United Auto Workers of censoring and rejecting scripts for union-sponsored broadcasts.

WHKC and the union notified FCC jointly that they have buried the hatchet, that both paid and free time hence-

## Advertising Report Is FTC's Potboiler

The advertising industry has little to fear from the Federal Trade Commission's forthcoming report on advertising as a factor in distribution (BW—Oct.21'44,p8).

Designed largely as a potboiler to justify Congress' annual appropriation for FTC's Economic Division (BW—Feb.3'40,p30), the report is not likely to provide much heavy ammunition for consumer and labor groups which have maintained that the great bulk of all advertising is wasteful and costly to the consumer.

● **New Products O.K'd**—Advertising of new products receives FTC's tacit indorsement as a means of decreasing production costs. On the much more controversial question of advertising of established products by competitive manufacturers and dealers, the commission contents itself with arguing that—when used to excess—such advertising may merely result in shifting consumer preference from one brand to another, resulting in an increase in distribution costs with no compensating increase in volume.

Inferentially, FTC gives some support to the view that, whether or not advertising is always justified economically, it can claim considerable social value because of its function as the lifeblood of the press and radio.

● **On Cooperative Advertising**—The commission puts the most heat on a practice to which it has long been antagonistic—cooperative advertising (the discounts, allowances, and other devices by which manufacturers seek to stimulate dealer support for their particular products).

FTC's argument against cooperative advertising runs something like this:

If it is used by one manufacturer in an industry, dealer pressure will soon force its adoption by others, with a canceling-out of competitive advantages. As a result the industry may be permanently burdened with unproductive distribution costs.

● **Skirting the Law?**—FTC is patently skeptical about any manufacturer's ability to dabble in cooperative advertising without running afoul of the Robinson-Patman law which bans differential discounts and allowances except where they can be clearly justified by savings in the cost of manufacture, sale, or distribution. FTC is convinced that manufacturers inevitably tend to concentrate on the outlets calculated to give them the biggest boost—in volume or prestige—with resulting discrimination against less-favored outlets for their products.

After laboring for years with little success to bring about the abandonment of cooperative advertising and other devices for sweetening up dealers through industry-wide trade practice agreements, FTC is now relying on such legal suasion as a recent circuit court decision upholding its cease-and-desist order against Corn Products Refining Co. Principal issue in the Corn Products case was the company's use of a single basing point system (BW—Jul.22'44,p100), but the court also came down hard on its handling of cooperative advertising.



**"WE THOUGHT  
WE WERE GETTING TOP  
SAW-PERFORMANCE**



**Then this  
SIMONDS  
Engineer  
showed us  
how to get 30% more!"**

"We were cutting 2,000 slugs of 1½" brass an hour, with a 12" saw. Then this Simonds man tried his T-11 saw on the same machine with a change of feed . . . and got 30% more operating time between sharpenings . . . and 193 sharpenings per saw!"

Such results, of course, are not possible in every case. But in a majority of cases, some worthwhile improvement or saving results when a Simonds Engineer gets a look at the cutting operation . . . whether it's on metal, wood or other materials. And there's no obligation in trying out his recommendations. Just tell your Industrial Supply Distributor to bring the Simonds man to your plant.

**SIMONDS**  
**SAW AND STEEL CO.**  
FITCHBURG, MASS.

forth will be available to the union and other "nonprofit organizations."

The settlement is not only a clear-cut victory for the union, but also a slap at the National Assn. of Broadcasters whose code of ethics, repudiated by WHKC, prohibits the airing of controversial issues.

### Cramp Ship Case Closed

The Federal Trade Commission has closed the book on its probe of contracts for putting the yards of the Cramp Shipbuilding Co., Philadelphia, into shape for this war (BW—Jan. 18'41, p. 26).

As the work already had been done in 1940 and 1941 before the investigation got under way, there is a musty odor to FTC orders issued this week prohibiting collusive and deceptive bidding on contracts for supplying material. The orders name Charles F. Rohleder of Philadelphia, the general contractor, his agents, and several suppliers.

In the meantime, Rohleder and several others have been acquitted of charges of collusion made by a federal grand jury.

### Capital Gains (and Losses)

Fuel oil consumers who converted to coal may return to the use of oil, if they wish, and are assured of rations upon application.

WPB's dwindling stockpile of pre-war refrigerators is embroiling it in international relations. Recently, the agency turned down a request from the Duke of Windsor (made through diplomatic channels) for a refrigerator. A high Iranian official, who also resorted to diplomacy, fared no better.

Unable to dispose of 10,000 porcelain spittoons left over from the World War, Treasury Procurement has knocked the tops off them, added handles, and is selling them as stewpans.

OPA is taking issue with a joint WPB-National Housing Agency plan to raise the ceiling on new-home construction from \$6,000 to \$7,500 (with a possible boost to \$9,000 in high-cost areas). Rent officials regard the proposed boosts as inflationary, will hold out for more moderate increases.

—Business Week's  
Washington Bureau

### THE COVER

After months of speculation about a new Ford car that would undercut the entire market, the founder, Henry Ford, and his grandson, Henry, II, made it virtually official last week (page 16) at a meeting with their field men.



**SAFETY**

Here's face and eye protection for your workers on the semi-hazardous jobs. The Willson Protecto-Shield with replaceable resilient plastic visor gives full protection from and side.



**STYLE**

The smart appearance and light weight of the Protecto-Shield on both men and women make it popular to wear. This helps to solve your problem of keeping protective equipment on your workers.



**COMFORT**

Safety with comfort is an important reason why the Protecto-Shield is worn for a full shift. Comfort features have always equalled safety in Willson Safety equipment.

Ask your Willson Safety Equipment Distributor for further information on the Protecto-Shield for light grinding, wood working and spot welding. Or write for descriptive bulletin.

GOGGLES • RESPIRATORS • GAS MASKS • HELMETS

**WILLSON**  
DOUBLE  
PRODUCTS INCORPORATED  
READING, PA., U.S.A. Established 1877



# THE OUTLOOK

BUSINESS WEEK  
OCTOBER 28, 1944



The war is going well (page 107). Unfortunately, however, we must pay for our successes. And the armed services will tend to play up our losses in order to prevent any letdown on the home front.

Casualties announced by the Army in the two weeks ended Oct. 6, for example, were relatively heavy—33,600. That was the period during which our airborne forces were helping to establish the Nijmegen bridgehead and our First Army was widening its breach in the Westwall on both sides of Aachen.

The Army and Navy, as they fight the climactic battles of the war, want every last ounce of production. One result is that WPB, ready to end controls over manufacture of farm machinery, this week was forced to delay such action indefinitely.

After election—but before V-E Day—the Army is likely to create a new "draft crisis" for industry. The demand will be based on the need for more replacements. Workers may be rescreened up to age 30.

Redoubled demand for all-out arms production cannot obscure the fact that industrial activity is gradually declining. Here are two signs:

(1) **Steel demand has relaxed.** The jam in flat-rolled products has lessened, partly due to cancellation of most of the orders for steel landing mats. Shipments are reducing order banks. Shorter delivery dates can now be promised on most products.

(2) **Freight movement is down.** Carloadings failed to reach the usual seasonal peak early in October. Revenue ton-miles, an even better measure of freight movement than carloadings, fell below year-ago levels for the first time in August, and the gap widened in September.

Dwindling freight traffic strengthens the railroads' bid for higher rates.

Volume will decline somewhat further after the defeat of Germany, and will drop fairly sharply with final victory. After watching profits decline for 16 months, the railroads are worried about red ink.

There are rumblings of new wage-increase demands for rail labor. Even if that doesn't materialize, the carriers face huge outlays for deferred maintenance and new equipment, especially passenger cars.

Realistic nose-counting to see who will provide the jobs for "full employment" is being done by a good many people, in and out of industry. And their results don't necessarily add up to the highly desirable goal.

**Manufacturing** employment, if we are to realize our fond hopes, would have to jump about 60% above the prewar level, or 6,000,000 workers.

**Trades and services** must achieve a 30% to 40% rise, which would mean an employment gain of between 3,000,000 and 4,000,000.

**Construction** is altogether likely to chalk up a 50% increase, might manage to stretch it to 75%, the outside figure amounting to 1,250,000.

**Transportation and public utilities**, maybe 25%, or 800,000.

**Agriculture** heretofore has supported too many people; the prospect is for fewer hired hands than before the war (BW—Sep. 9'44, p10).

Most interesting single opportunity for job expansion is in what the Bureau of Labor Statistics calls trade, service, and miscellaneous. These are diverse lines catering directly to the consumer.

Consumer expenditures were less than 62 billion dollars in 1934, are

# THE OUTLOOK (Continued)

**BUSINESS WEEK**  
**OCTOBER 28, 1944**

heading for more than 95 billion this year. In contrast to that gain of more than 50% (without deflating for higher prices), trade and service workers have risen only from 10,800,000 to 11,500,000 or less than 7%.

And bear in mind that most economists insist consumer expenditures must run 110 to 112 billion dollars after the war to assure real prosperity.

The labor force will be substantially reduced, maybe a million or more, by people starting their own businesses, most of which will be in the trade and service fields. Moreover, many people look for a permanent increase in the number of workers in trades and services relative to business volume.

•  
**Construction is one of the industries that is certain to skyrocket—due partly to its present very low level.**

Employment in this line was 1,750,000 in 1939, hit a wartime peak close to 2,500,000 workers, and now is down to 680,000. A rise to 3,000,000 is altogether probable, allowing for necessary public works such as roads and airports.

Moreover, construction is one of the most potent lines in creating jobs in the industries which are its suppliers. Interest in building potentialities is typified by the action of New York City's Committee for Economic Development which this week named a committee to catalog the postwar possibilities in Gotham.

•  
**Big industries like steel and automobiles are the ones the public thinks of as providing most jobs, but here the argument starts.**

All manufacturing in 1939 provided jobs for less than 10,100,000 people (both wage and salary earners). The wartime peak in November, 1943, was 17,240,000 and the current figure is 15,850,000.

Eric Johnston, president of the U. S. Chamber of Commerce, this week declared that postwar industry will be doing an heroic job if it provides work for 14,000,000. Economists have been figuring on 16,000,000 to 17,000,000 in their efforts to balance the jobs and the workers.

In nonmanufacturing fields, mining takes care of only 1,000,000 in boom times. Transportation and public utilities scraped over the wartime hump with 3,700,000, probably wouldn't need many more than this number to handle the maximum peacetime load.

All told, mining, transportation, and the utilities will need about a million more workers than they employed in 1939.

•  
**Plans for speeding reconversion—without impairing the war effort—outlined by Henry J. Kaiser to President Roosevelt the end of last week are based on the belief that industry can do a real job without help.**

The West Coast industrialist, along with others whom he does not care to name at this point, offers to take war orders off the hands of concerns that want to get back to their normal lines. Only after agreements are reached is it necessary to see WPB on materials and the War Manpower Commission on manpower.

Kaiser sees many advantages to the idea: (1) It will help cushion the shocks of reconversion; (2) it will help clear equipment from the floors of private companies and get it into government plants where it will still be used on war production; and (3) it is an all-industry affair.

Incidentally, Kaiser says he can go ahead with his own postwar plans (nature undisclosed) while participating in this type of reconversion.

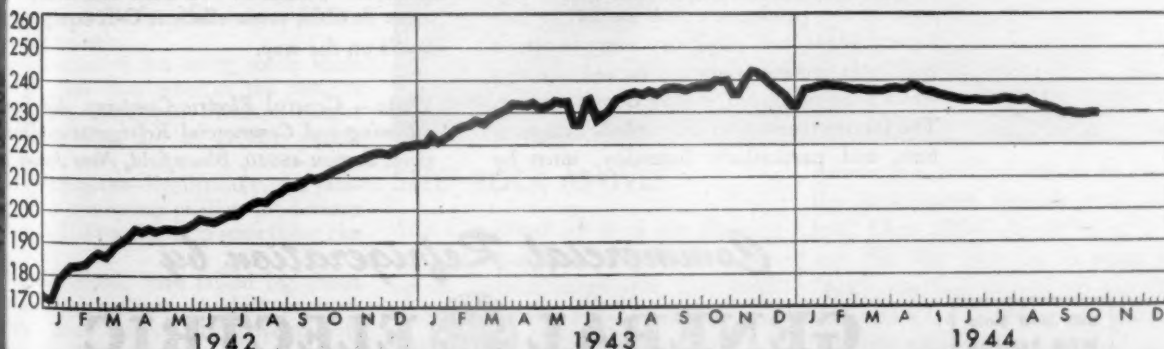
# FIGURES OF THE WEEK

	% Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
THE INDEX (see chart below). . . . .	*230.7	230.8	230.9	239.7	240.6
<b>PRODUCTION</b>					
Steel Ingot Operations (% of capacity).....	96.3	97.0	95.1	100.0	100.6
Production of Automobiles and Trucks.....	20,660	19,435	20,880	16,905	17,785
Engineering Const. Awards (Eng. News-Rec. 4-week daily av. in thousands)....	\$5,530	\$5,907	\$5,127	\$6,043	\$8,057
Electric Power Output (million kilowatt-hours).....	4,345	4,355	4,377	4,344	4,415
Crude Oil (daily average, 1,000 bbl.).....	4,745	4,727	4,744	4,427	4,410
Bituminous Coal (daily average, 1,000 tons).....	1,979	1,937	1,933	1,958	1,971
<b>TRADE</b>					
Miscellaneous and L.C.L. Carloadings (daily average, 1,000 cars).....	87	85	86	80	85
All Other Carloadings (daily average, 1,000 cars).....	62	61	63	54	67
Money in Circulation (Wednesday series, millions).....	\$24,157	\$24,099	\$23,558	\$21,334	\$19,019
Department Store Sales (change from same week of preceding year).....	+16%	+16%	+9%	-11%	+13%
Business Failures (Dun & Bradstreet, number).....	12	15	24	20	34
<b>PRICES (Average for the week)</b>					
Spot Commodity Index (Moody's, Dec. 31, 1931 = 100).....	248.7	249.0	250.5	249.8	247.4
Industrial Raw Materials (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)...	166.3	†166.3	165.7	162.9	160.5
Domestic Farm Products (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)...	225.5	225.4	223.5	222.4	215.7
Finished Steel Composite (Steel, ton).....	\$56.73	\$56.73	\$56.73	\$56.73	\$56.73
Scrap Steel Composite (Iron Age, ton).....	\$15.67	\$15.75	\$17.00	\$19.17	\$19.17
Copper (electrolytic, Connecticut Valley, lb.).....	12.000¢	12.000¢	12.000¢	12.000¢	12.000¢
Wheat (No. 2, hard winter, Kansas City, bu.).....	\$1.62	\$1.60	\$1.55	\$1.64	\$1.53
Sugar (raw, delivered New York, lb.).....	3.74¢	3.74¢	3.74¢	3.74¢	3.74¢
Cotton (middling, ten designated markets, lb.).....	21.52¢	21.64¢	21.47¢	20.99¢	20.21¢
Wool Tops (New York, lb.).....	\$1.340	\$1.340	\$1.323	\$1.313	\$1.332
Rubber (ribbed smoked sheets, New York, lb.).....	22.50¢	22.50¢	22.50¢	22.50¢	22.50¢
<b>FINANCE</b>					
90 Stocks, Price Index (Standard & Poor's Corp.).....	102.6	103.3	100.8	93.3	94.5
Medium Grade Corporate Bond Yield (30 Baa issues, Moody's).....	3.54%	3.54%	3.56%	3.67%	3.81%
High Grade Corporate Bond Yield (30 Aaa issues, Moody's).....	2.72%	2.72%	2.72%	2.73%	2.70%
Call Loans Renewal Rate, N. Y. Stock Exchange (daily average).....	1.00%	1.00%	1.00%	1.00%	1.00%
Prime Commercial Paper, 4-to-6 months, N. Y. City (prevailing rate).....	3%	3%	3%	3%	3-3%
<b>BANKING (Millions of dollars)</b>					
Demand Deposits Adjusted, reporting member banks.....	36,614	35,890	35,522	34,248	31,366
Total Loans and Investments, reporting member banks.....	54,079	54,087	54,766	51,453	53,477
Commercial and Agricultural Loans, reporting member banks.....	6,136	6,110	6,055	6,151	6,361
Securities Loans, reporting member banks.....	2,408	2,482	2,452	1,961	2,857
U. S. Gov't and Gov't Guaranteed Obligations Held, reporting member banks..	40,197	40,130	40,860	38,110	38,682
Other Securities Held, reporting member banks.....	2,902	2,910	2,960	2,885	2,914
Excess Reserves, all member banks (Wednesday series).....	900	1,000	878	927	1,407
Total Federal Reserve Credit Outstanding (Wednesday series).....	17,795	17,503	17,237	13,330	9,380

Preliminary, week ended October 21st.  
 Ceiling fixed by government.

† Revised.  
 § Date for "Latest Week" on each series on request.

## BUSINESS WEEK INDEX OF BUSINESS ACTIVITY



# GOLDEN BROWN, ENRICHED ... and Refrigerated



BREAD "hot from the oven" is *really* hot, about 200°F. Before it can be sliced and wrapped, each loaf must be cooled to around 85°. Modern refrigeration techniques make it possible to do the cooling job uniformly—and quickly.

Because your daily bread—golden brown and enriched—is properly cooled before wrapping, it stays fresh and wholesome longer, doesn't get moldy as soon.

But refrigeration is vital in many other spots of the production line in the modern bakery. Flour and other dry ingredients, as well as ingredient water are cooled to counteract heat produced during dough mixing. The mixers themselves are cooled. Temperature, and particularly humidity, must be

controlled to standardize fermentation in the dough. Cooling is needed to set the wrapping on the loaves. Pie crust and many pastries and cakes are made up in advance and the dough or batter is stored under refrigeration until time for baking.

After the war, vastly improved refrigeration and air conditioning equipment will be available for all businesses. Now is a good time to explore your postwar requirements, see how you can benefit from the more compact, more flexible, more efficient G-E equipment that's on the way.

Write — General Electric Company, Air Conditioning and Commercial Refrigeration Divisions, Section 48610, Bloomfield, New Jersey.

BUY and hold  
WAR BONDS

Commercial Refrigeration by  
**GENERAL  ELECTRIC**

Hear the General Electric Radio Programs: The "G-E ALL-GIRL ORCHESTRA," Sundays, 10 P. M., EWT, NBC... "THE WORLD TODAY" News, Every Weekday, 6:45 P. M., EWT, CBS



## Reconversion—By Inches

Although military production likely will maintain its present pace until Germany falls, there is no moratorium on spot authorizations or on planning for civilian products.

When WPB promised last month that almost all restrictions on civilian production would be lifted after V-E Day (BW—Sep. 9'44, p5), the end of the war in Europe seemed in sight.

For all practical purposes, the promise still stands, but the stiffening of Nazi resistance has necessitated a shift in emphasis. Seven weeks ago, the war production machine was lumbering along on its own momentum and the accent was on reconversion planning.

**Accent Reversed**—WPB's effort now to reverse the accent is not, of itself, a moratorium on reconversion. Military production probably will remain at about its present level until Germany collapses, or victory is within reach.

But materials are piling up. Steel, which was tight last summer, is comparatively easy now. Even some components, critically scarce a few months ago, are now in sight for civilian production.

**One Hurdle**—As war contracts are cut back and reshuffled—and as industry applies its native ingenuity to the problem—facilities are becoming available. This leaves manpower the only real barrier to immediate reconversion in many industries.

Every decision to increase civilian production is still accompanied by much juggling and hauling, within WPB, and between WPB and military manpower authorities.

**Bad for Morale**—The Army and Navy have reverted to the "psychological" argument—that too much talk of reconversion is bad for the home front's fighting morale.

But decisions are being made more rapidly than they were in the months before the European invasion caught hold—and they are of greater significance.

**The Prospects**—Realistically, the prospects for increasing civilian production before V-E Day shape up something like this:

WPB officials have talked big about getting the military to shift procurements from private to government-owned facilities, to get war work out of plants which can produce needed civilian goods, particularly where short-

ages of the lead "or prerequisite" components—wringers for washing machines are a good example—could hold up whole industries.

So far, the Army and Navy have given little ground. Their reluctance to move stems from the fact that government-owned plants are always in standby condition, while private plants, once cut back, might be gone for good. Also, the big private plants which could produce a substantial volume of civilian goods are often the lowest-cost, most efficient producers of military items.

**No Major Concessions**—WPB has a list of 30 components it would like to get for civilian production by juggling procurements. The military might give a little here and there, but no major concessions can be expected until after V-E Day.

Even without a general shifting of procurements, modest increases in civilian production are in sight. WPB's spot authorization program is building up steam (box, page 16).

In fact, in the past couple of weeks, spot authorizations have been going a little too fast for WPB's and the military's peace of mind. Word has gone out to field offices to apply the brakes judiciously, subject applications to a more careful screening.

**Responsive to War News**—The spot program is highly flexible. Its usefulness as an instrument for increasing civilian production will be affected by the latest news from the fighting fronts. An application turned down this week may be approved next week. WPB's latest instructions to field offices are merely a word of caution; they don't presage a general crackdown.

While spot authorization is largely a hit-or-miss affair, WPB field offices have had considerable success in getting manufacturers started on production of goods badly needed to patch the run-down civilian economy.

**Wide Assortment**—Spot authorizations to date include a substantial vol-



### STEEL ROCK ARRIVES

At a Cleveland ore dock the dancing arms of a mechanical unloader scoop up an historic cargo—the first boatload of iron ore from Canada's new Steep Rock operations. Arrival of this 12,500-ton shipment last week marked a milestone in unprecedented

American-Canadian efforts to exploit the under-water deposit near Atikokan, Ont. (BW—Jan. 29'44, p21). It was the first time in 52 years that "new" ore had arrived at the Ohio metropolis and placed in different light the concern in some steel circles over the diminishing reserves of Minnesota's Mesabi ore.

## Two Months of Spot Authorization

This week, for the first time, WPB had assembled enough statistics to spell out what has happened thus far under the spot authorization program which gives WPB field offices power to permit limited reconversion and increases in production of goods for civilian use.

The most significant single fact in WPB's presentation is that spot authorization is now really functioning. As of Oct. 14, a total of 3,649 applications had been filed, and 1,110 had been granted. Yet up to Oct. 10, only 579 applications had been approved—although technically the program has been in operation since Aug. 15.

Of a total of 1,178 applications on which WPB had detailed information, 940 had been approved, 238 denied. Denials were almost entirely the result of the exercise of the War Manpower Commission's veto power. A majority of them were

for reasons of labor shortages, and covered plants in Group I labor areas (acute shortage).

Of the applications granted, however, 254 were from plants in Group I labor areas, 263 from plants in Group II areas (serious shortage), 178 from Group III (balanced labor supply), and 157 from Group IV areas (labor surplus), while 88 were from unclassified areas.

For the 940 applications, 12,506 tons of carbon steel and 6,980,983 lb. of aluminum had been made available under spot authorization for fourth-quarter production. Substantial quantities of copper, and a small amount of alloy steel, also had been allotted to applicants.

Production authorized for the 940 applications is estimated at \$44,816,000 for the fourth quarter. The biggest part of this is accounted for by a miscellany of consumer durable goods (\$31,642,000).

ume of automotive maintenance equipment, building materials, office furniture, vacuum cleaners, kitchen utensils (\$5,000,000 of household aluminum ware is scheduled for production in the fourth quarter), innerspring mattresses and studio couches, cooking and heating appliances, cutlery, fountain pens and mechanical pencils, farm machinery, commercial refrigeration and air-conditioning equipment, plumbing and heating equipment, and service equipment.

Unless V-E Day is a very long time coming, the volume of spot authorizations won't be a drop in the bucket compared to the real reconversion—but the first drop can go a long way to quench the civilian economy's thirst.

• **Maytag's Go-Ahead**—WPB is now talking of putting domestic mechanical refrigerators and washing machines under spot authorization. By a bit of legal legerdemain, WPB has already decided (after much soul searching and a battle with the military) that Maytag can produce and stockpile washing machine parts under spot authorization—though it can't assemble the finished product. Other manufacturers are expected to seek similar permission.

WPB thinks facilities, materials, and components are now available for the production of 225,000 refrigerators a quarter, but manpower is an obstacle. Realistic officials think refrigerators will be in production early in the first quarter of 1945 (some say before the end of 1944), whether or not V-E Day has

come by then. But it took WPB more than a year to get the military to approve production of 2,000,000 electric irons—and so far less than 100,000 have come off the assembly lines.

There is a fairly good prospect that the military will permit the big durable goods producers to convert a few pilot lines to civilian merchandise, under tight control from Washington.

• **Weakening on Iceboxes**—The Army's resistance to production of all-metal iceboxes (BW-Oct. 21 '44, p7) is weakening, and WPB may be able to remove the 6-lb. weight restriction (6 lb. of steel per box). If this falls through, some officials predict, no iceboxes will be produced this year.

The refrigerator industry already has petitioned WPB for a special AA-3 priority rating to enable it to procure components which could then be stockpiled against reconversion, and the washing machine industry is next in line. (Maytag's go-ahead under spot authorization carries no priority rating.) Many officials are sympathetic to this proposition, if WPB can accede to it without seeming to discriminate among industries and run afoul of the demobilization law.

• **Steel Allotments Up**—The Office of Civilian Requirements' fourth-quarter allocation of steel is receiving periodic boosts (BW-Oct. 14 '44, p7). Materials have been allotted for commercial and domestic stokers and for domestic oil burners (BW-Sep. 23 '44, p18), and these are already in production.

## Ford Challenges

Lays plans to recapture automotive supremacy held since 1937 by Chevrolet. New model lower-priced car reported.

In 1923 Ford Motor Co. produced 2,090,959 cars and trucks, a total not exceeded by any one manufacturer before or since. In the late thirties the company's production supremacy was lost to Chevrolet, which has held its place steadily since 1937. But Ford has now hatched plans designed to gain its preeminence.

• **Lower-Priced Model**—One item in the Ford program will be a lower-priced car (BW-Jul. 29 '44, p20). It will not be at \$500, as the first reports indicated, but it will be a definite 20% or so below the Chevrolet-Ford-Plymouth line, which before this war stood at an average \$784 at the factory, and after the war may be somewhere above \$900.

The lower-priced Ford will probably require ten months or so of development before it can come onto the scene.

• **Effect on Chevrolet**—Last week in Detroit thoughtfully considered reports, then concluded that if Ford introduced a low-priced car, Chevrolet would be quick to react. Then, with both lower-priced Fords and Chevrolets in the field, there would be no longer any question that the new cars would be the real floor-level leaders in the industry, and that the hitherto low-priced models, having lost that distinction, would gradually disappear from the scene. Strength is lent this hypothesis by the fact that the new line will carry the Ford nameplate.

This has happened before. It has been the experience of the auto industry that "lowest priced" models have gradually increased in quality and cost to the point where their manufacturers were able to wedge new "stripped models" in underneath them.

• **Five-Cylinder Engine?**—Meanwhile there is talk in Detroit that the design of the new Ford is already on paper.

It is reported, wholly without verification, that the new engine is a five-cylinder, in-line job. If this is true, it would be the first of its type ever used in an automobile outside experimental shops, and probably would be intended to compromise six-cylinder performance and four-cylinder economy.

• **New Plant Needed**—To produce a lower-priced Ford, as well as the standard lines, Ford will spend \$150,000,000 or more in new plant, tooling, and facilities. At least one new manufacturing plant and one new assembly plant

built. Land has been acquired at  
Louis and that city may be the site  
one or both of these new operations.  
The federal government will also  
and back to Ford a number of plants  
used or purchased since this war began.  
Details are now completed for later re-  
turn of the Buffalo and Long Beach,  
Calif.) plants, both leased.  
Ford engineering facilities also will

be expanded. Production and research  
engineering are being coordinated and  
centralized in enlarged quarters, some  
new, in the Ford engineering building  
at Dearborn, adjoining Ford airport.  
But the location is not significant—the  
company plans to confine its postwar  
work to automobiles and farm imple-  
ments, and has no aircraft aspirations at  
this time.

in Texas even if it wasn't built to use  
Texas raw materials.

● **Historic Area**—It's now almost a hun-  
dred years since the first little pig iron  
furnaces went into operation in north-  
east Texas, but the big deposits of ores,  
largely limonite, still lie virtually un-  
exploited.

The Civil War contributed a stimulus  
prophetic of present war demand; fur-  
naces and foundries flourished. Then  
Appomattox came.

The eighties and nineties brought an-  
other period of great activity. Industry  
and population were heading west; the  
Tassie Belle, Star and Crescent, and old  
Alcalde furnaces belched a welcome—  
till they ran out of charcoal and found  
coal too costly to import.

● **Revival of Hopes**—In 1912, the dream  
was bright again; Charles M. Schwab  
and his engineers surveyed deposits and  
made an offer to buy large holdings, but  
the deal never came off. The World  
War brought other tentative proposals,  
and a decade ago U. S. Steel's Tennes-  
see Coal & Iron invested hundreds of  
thousands in a survey that came to  
nought.

Even before the U. S. got into this  
war, John W. Carpenter, president of  
Texas Power & Light Co. ("What Texas  
Makes Makes Texas"), decided that the  
time had come to make the dream of  
steel empire come true (BW—Jan. 2'43,  
p52). Gathering a score of associates  
about him—Texas bankers, manufactur-  
ers, oil men—he set out to build a case  
to take to Washington.

He employed Dr. George H. An-  
derson of California Tech to survey  
resources, handle the scientific and en-  
gineering aspects of the project. Sev-  
enty-odd tests were run in a surface

## South, West vs. North, East

New industrial areas face heavy postwar competition from  
the established regions. Plight of Texas steel company is a classic  
example of trouble awaiting war-born "little" business.

Will the South and the West be  
able to compete with the North and the  
East for new industry after the war?

Will little business—sometimes only  
relatively "little"—be able to protect  
itself against big business when all the  
others to free competition are down again  
after the war?

● **Example in Texas**—This double-  
headed problem is never the same in its  
many manifestations, but for a classic  
example of the fundamental issues con-  
sider the plight of the Lone Star Steel  
Co. of Dallas and its half-completed  
\$65,000,000 plant in the piney woods  
of northeast Texas, near the little town  
of Daingerfield.

Right now, the fate of that project  
hangs in delicate balance.

Backers of Lone Star Steel are ready  
to drop a hat to demonstrate  
that there's every reason in the world  
economically—for the plant to be a  
success.

● **Three Requisites**—Steel requires iron  
ore, coal, and limestone; all three are  
within reach. The ore (with a 60%  
metal content and low impurity ratings,  
according to company metallurgists)  
can be mined at Daingerfield. Lime-  
stone is available at the Chico quarries  
in Wise County, just northwest of Fort  
Worth.

Coal of good coking quality, both  
high and low volatile, can be shipped  
in economically from McAlester and  
McCurtain, about 150 mi. north in  
Oklahoma. Labor costs are low, and  
the production efficiency of any well-  
designed new plant is high.

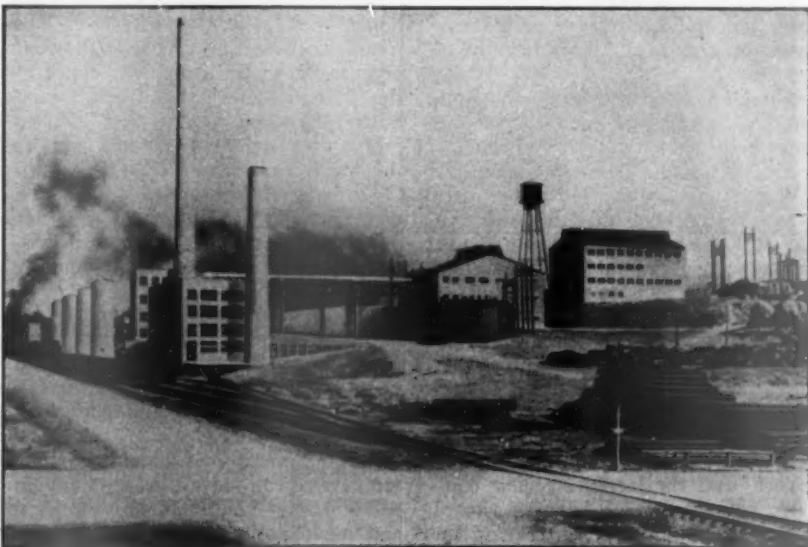
● **Sales Prospects**—As for the market,  
Lone Star figures that with a completed  
capacity of 432,000 tons a year it could  
supply more than 18% of the de-  
mand—mostly pipe for wells and lines  
to carry oil and gas—within the area  
where freight rates would permit it to  
compete profitably (map, page 18).

On the basis of raw materials, pro-  
duction costs, and market potentials,

the backers of Lone Star Steel would  
seem to have a good thing—on paper.  
But chances are better than even that  
the men who have pushed the project  
thus far along the road will never op-  
erate the completed plant. Indeed, per-  
haps nobody else will either, for there's  
an outside chance that the plant may  
never be in production.

● **Takes More Than Pride**—Texans, al-  
ways long on native pride and now  
strong on industrial ambition, want  
that mill to supply more—and maybe  
cheaper—steel to their new and thriving  
industries. But in the Lone Star Steel  
poker game with its \$65,000,000 pot,  
local pride and ambition buy no chips.

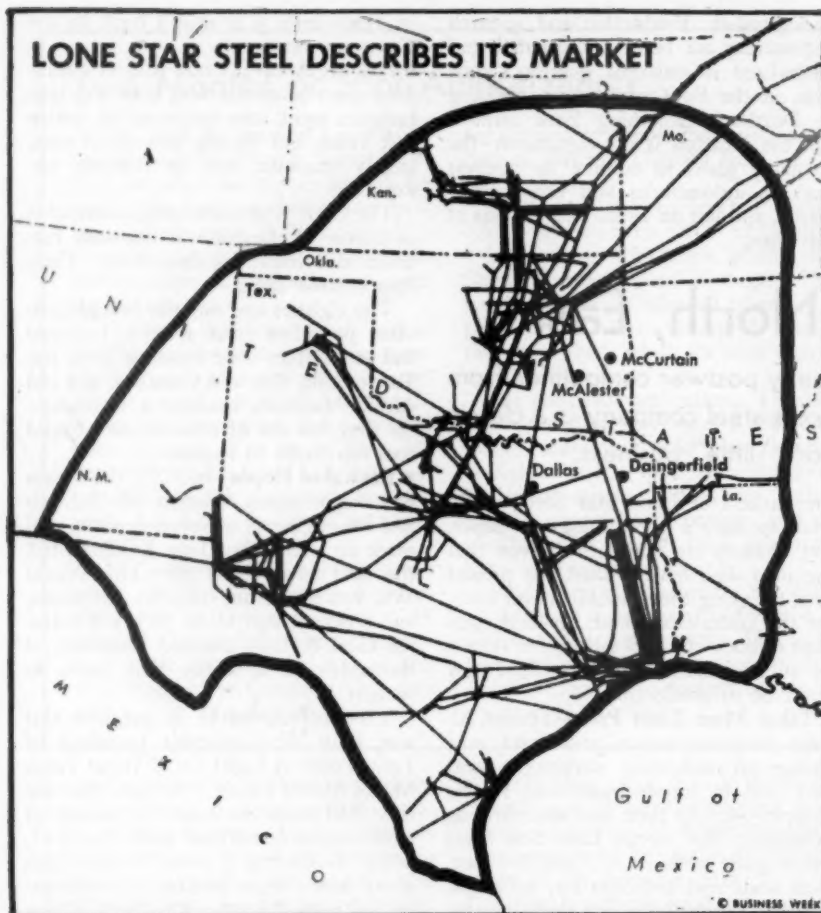
If the Texas dream of a steel industry  
dies aborning, it won't be the first such  
disappointment, and natives can find  
some meager consolation in the boost  
that the war has given Sheffield Steel  
Co. of Houston, a subsidiary of Ameri-  
can Rolling Mill Co., which is at least



A railroad locomotive provides the only smoke at Lone Star Steel's uncom-  
pleted plant near Daingerfield, Tex., while its backers face an uncertain future.



## LONE STAR STEEL DESCRIBES ITS MARKET



Oil wells and pipelines, a whole network of them in the Southwest, are big consumers of steel pipe. So is the natural gas industry. That's why Lone

Star Steel has planned to concentrate on pipe. All told, it has figured it could not supply more than 18% of total steel demand in its market area.

field, and the company reported evidence of a hundred years' supply of good ore.

The U. S. Bureau of Mines and Koppers Co. agreed that good coking coal could be obtained from the Oklahoma deposits, still largely undeveloped.

• **War Angle Stressed**—Market data were collected, showing how much iron and steel had to be shipped into Texas, and how much more the state's shipbuilding and metalworking industries could contribute to the war effort if the steel were made at home.

Armed with his exhibits to prove that Texas could and should have a steel industry, Carpenter went to Washington. Texan Jesse Jones said that his Defense Plant Corp. would finance the project. But the facilities review committee of the War Production Board turned down Carpenter's request for priorities.

• **Nelson Gives O.K.**—The poker game began right there. Carpenter came

home, pondered the suggestions of friends that he'd got the cold shoulder because the review committee reflected the interests of the established steel industry. Then he went back to Washington and straight to Donald Nelson, the WPB chairman. Nelson gave his O.K. on a blast furnace of 1,200-ton daily capacity, a battery of 78 coke ovens, a power plant, an ore beneficiation mill, rail facilities, and a housing project.

Importantly, Nelson is supposed to have promised that when that pig iron plant was completed, priorities would be forthcoming for openhearth furnaces, a blooming mill, and a finishing or products plant.

The approved part of the program represented an investment of about \$30,000,000—\$25,000,000 for the plant and ore deposits (of which Carpenter and his associates put up \$1,000,000) and \$5,800,000 in the Oklahoma coal mines. The uncompleted part of the

program would require about \$40,000,000 more.

• **Ovens Lighted**—Construction of the plant actually began in August, 1942. On Oct. 5, 1943, the coke ovens were lighted with appropriate ceremony (BW—Oct. 16 '43, p. 22). Rep. Wright Patman, in whose district the plant is located, and Speaker of the House Sam Rayburn from an adjacent district made the piny woods echo with oratory on Texas' economic progress and New Deal virtues.

For the Lone Star Steel Co. that was high tide; from that point on, the flood of fortune began to run out. The apparent need for a vast and rapid expansion of American steel-making capacity seemed less pressing now; the existing steel industry was demonstrating its ability to meet military demand.

If Lone Star officials found WPB apathetic to their original plans, they now encountered downright hostility to their plea for the openhearth, the blooming mill, and the finishing plant. • **The Alternatives**—When the stalemate first set in, Carpenter and his associates thought there might be enough demand for pig iron to justify operation of the blast furnace. But freight rates made pig iron shipment from Daingerfield uneconomic, and most steel plants had adequate facilities to produce their own pig; so the blast furnace never was operated.

Next, Lone Star thought it might use its ovens to produce a high-grade foundry coke, which it could deliver anywhere west to the Pacific Coast at prices competitive with those of plants in the Mississippi Valley and the Great Lakes region. But that, too, proved a chimera.

• **Lack of Coal**—When WPB first grudgingly gave the Texas project a green light it stipulated that the Oklahoma coal fields should be jointly developed and operated by Lone Star Steel and Sheffield Steel, which from the time of its founding in 1936 had obtained raw materials for its specialty steel products from the Birmingham (Ala.) area.

Later Washington ordered that all of the production from the Oklahoma field should be shipped to Houston. Sheffield could make steel products needed for the war; Lone Star could only turn out pig iron or foundry coke. So once again the Daingerfield project was left in the lurch.

And that's precisely where it stands today, for aside from the occasional sale of processed ores—about 30,000 tons total—the plant is idle and unproductive, an unfulfilled promise for Texas, an uncompleted threat as far as the rest of the steel industry is concerned.

• **The Outlook**—What are the prospects for the future?

Conceivably, when V-Day comes and



...0,000, ...  
...of the ...  
...1942 ...  
...s were ...  
... (BW) ...  
...tman ...  
...cated ...  
...ybum ...  
...e the ...  
...Texas ...  
...virtue ...  
...it was ...  
...flood ...  
...The ...  
...id ex ...  
...capac ...  
...e ex ...  
...rating ...  
...d. ...  
...WPB ...  
...they ...  
...ity to ...  
...the ...  
...plant ...  
...stale ...  
...his ...  
...be ...  
...ustify ...  
...But ...  
...ment ...  
...and ...  
...lities ...  
...blast ...

...ities become a matter of history, ...  
...penter and his associates can get ...  
...openhearth, blooming mill, and ...  
...shing plant without asking anybody's ...  
...mission. But that would take \$40,- ...  
...0,000 in addition to the \$24,000,000 ...  
...y would have to raise to buy up the ...  
...C interest.

...That's a tidy sum of money to risk ...  
...fighting for a market dominated by ...  
...lished firms that count their as ...  
...in hundreds of millions. And there's ...  
...doubt of the fact that there would ...  
...a fight for the market.

...U. S. Steel, for instance, has more ...  
...n a half-dozen subsidiaries doing ...  
...ness in Texas, and it regards the ...  
...ket as so important that over a year ...  
...it established a public relations ...  
...ce in Dallas—the only such office that ...  
...corporation maintains in any city ...  
...er than one in which it has a home ...  
...ce.

...Trade Is Skeptical—Steel industry ...  
...kesmen disparage the Daingerfield ...  
...e deposits, claiming that they are ...  
...lity. Furthermore, they will tell you ...  
...t established steel companies could ...  
...down pipe in Daingerfield \$3 a ton ...  
...eaper than Lone Star could produce ...  
...and there's a clear implication that ...  
...ey would, whether or not they could ...  
...rd to on a strict cost-accounting ...  
...is.

...Lone Star backers may discount a por ...  
...on of such talk as sheer bluff, but the ...  
...ce-cutting threat they know is based ...  
...a pat hand. Political retaliation— ...  
...rough the encouragement of antitrust ...  
...tion in Washington or of protective



...legislation in Texas—is the only possible ...  
...counterthreat.

...● Security in Pipe—Of course, the Lone ...  
...Star project need not be finished as a ...  
...completely integrated steel products ...  
...plant. With the addition of fabricating ...  
...facilities, costing only a few millions, it ...  
...could turn out cast-iron pipe.

...The market would be vastly smaller ...  
...but it would also be a lot safer from the ...  
...threat of competitive price cutting.

...● Future Is Uncertain—Sale of Lone Star ...  
...to one of the established steel compa ...  
...nies is a possibility, but thus far major ...  
...interests have shown no interest.

...Apart from the economic uncertain ...  
...ties of the future, most of them have ...  
...little desire to expand facilities more ...  
...than they have had to do during the ...  
...war. The acquisition of new facilities ...  
...always carries with it the threat of fu ...  
...ture trouble in old home plants when a ...  
...depression forces layoffs.

...To Big Steel and Little Steel the ...  
...question of what to do about the Dain ...  
...gerfield project is almost as much of a ...  
...problem as it is to Lone Star Steel.

...● Wrong Either Way—They feel that ...  
...they'll be damned if they do and ...  
...damned if they don't. If they buy the ...  
...plant, they will be accused of monopo ...  
...listic practices, of throttling local in ...  
...dustry. If they don't buy the plant they ...  
...will be charged with failing to aid in ...  
...Texas' industrial development if the ...  
...plant should then be abandoned, or per ...  
...haps ultimately of destroying it if the ...  
...plant does get going as an independent ...  
...operator and then loses out in a fight ...  
...for the Texas market.



## JETS FOR COMBUSTION

...In a dramatic demonstration, the ...  
...Louisville & Nashville R.R. intro ...  
...duces an improved model of a steam ...  
...air jet that makes locomotives "eat" ...  
...their own smoke. For this debut, a ...  
...jet-equipped switcher was fired ...  
...up heavily to produce thick black ...  
...smoke (left). But five seconds after a ...  
...valve was opened, this pall was prac ...  
...tically eliminated (above left) as

## U.S. Model Robot

...Army is experimenting ...  
...with buzz bomb patterned after ...  
...Nazis' V-1 weapon but distinct ...  
...in its directional control.

...The Nazis' V-1 robot bomb has been ...  
...reconstructed from pieces, and new ...  
...models now are being flown experi ...  
...mentally by the Army Air Forces Tech ...  
...nical Service Command at Wright ...  
...Field, Dayton, Ohio.

...● Delivery in Japan?—Private manufac ...  
...turers are aiding the Army in building ...  
...a quantity of robot bombs, presumably ...  
...for use in the war against Japan, but the ...  
...War Dept. refuses to tell how many ...  
...have been ordered.

...The Ford Motor Co. is making the ...  
...impulse engines (a dozen a day, accord ...  
...ing to report), Republic Aviation Corp. ...  
...the airframes and assemblies, Jack & ...  
...Heintz the directional control equip ...  
...ment, Monsanto Chemical Corp. some ...  
...catapult rockets.

...Others making various parts include ...  
...Bell Aircraft, Sperry Gyroscope, and ...  
...the Lake Success firm of Garden City, ...  
...N. Y.

...● Not Hit or Miss—This is not a copy ...  
...ing job, Col. H. R. Johnston, head of ...  
...air technical services at Wright Field, ...  
...insists. The Nazi bomb destroys at ran ...  
...dom, hitting homes and civilians and ...  
...empty fields as well as military objec ...  
...tives. Wright Field experimenters hope



...air drawn into the firebox by steam ...  
...jets induced combustion of the ...  
...smoke. In another five seconds, barely ...  
...a trace of smoke remained (above ...  
...right). Developed by Bituminous Coal ...  
...Research, Inc., and heartily indorsed ...  
...by the Nashville City Smoke Com ...  
...mission, the jets are installed on 15 ...  
...L. & N. locomotives—at a cost of ...  
...about \$110 each. Notable parts of ...  
...these installations are silencers that ...  
...muffle the noise made by earlier jets.

to be able to direct robots to selected targets. Speeds up to 600 m.p.h. have been mentioned, but facts on distances flown are secret.

It is also reported that the launching trough has been eliminated, and that an electrical sparking device will start the bomb upwards without the necessity of catapulting. The German bombs had to be towed by a plane or rocket until they reached a speed of about 200 m.p.h. before their impulse engine would start to operate.

● **Propelled by Exhaust**—The robot is a fuselage on stubby wings, carrying on its back a tapering tube containing the impulse jet engine. Air rushing through this tube, which has a "gate" consisting of several vents, mixes with fuel (not necessarily gasoline) and explodes spontaneously.

The vents close just before each explosion, thus forcing the exhaust out the rear of the tube. Inrushing air opens the vents again. The exhaust propels the robot. Vents open and close several times per second. Bottles of compressed air actuate directional controls.

Bombs 27 ft. long with a span of 17 ft., carrying warheads, have been launched and fired by the Army.

● **Army Worked Fast**—Only 17 days were required by the Army to learn the operation of the German machine after parts were received from England. Two months later the Army had fabricated bombs for experiment.

Ford built a robot bomb engine in 1918, but the war ended before it could be tested. Current experiments are concerned chiefly with improving directional control.

## Many State Issues

Voters in all but 16 states will ballot Nov. 7 on questions ranging from closed shop ban to benefits for veterans.

Although many of the measures coming before the voters in the various states on Nov. 7 will directly affect business, for the most part they have received scant public notice. The white hot interest in the presidential election has obscured other issues.

● **Closed Shop at Stake**—In all but 16 states voters on election day will cast ballots on measures affecting their welfare and their pocketbooks. Californians will have to make up their minds on twelve issues other than which candidates for office they wish to elect, while in Louisiana 21 constitutional amendments will be decided.

Most controversial of the propositions awaiting decision at the polls are proposals to ban the closed shop in California, Florida, and Arkansas (BW—Oct. 21 '44, p. 98); and the public versus private power issue in Washington (BW—Oct. 21 '44, p. 36). The "Little Townsend" measures expanding old-age assistance in Washington, California, Colorado, Oregon (BW—Oct. 14 '44, p. 52), Arizona, and Nevada also are generating considerable heat.

● **Liquor Ban Proposed**—State prohibition is due for a vote in Nebraska, the Allied Drys of Nebraska having collected some 70,000 signatures on a peti-

tion to place the question on the ballot. Opposition to the measure is widespread, even among some prohibition advocates, on the ground that it is fair to raise the prohibition issue. "the boys" are away fighting. Mrs. M. Thurber, a leader of the Women's Christian Temperance Union, who is ousted for her opposition to the referendum, has formed a new organization, the Nebraska Temperance & Tolerance League, to fight the measure's adoption.

In Oregon the so-called "Burke" would require all liquor containing more than 14% alcohol to be sold in state stores.

● **Vote on Tax Plans**—Arkansas considers increasing its present sales tax of 2% to 3%, the increment to be used to broaden the state's school system.

An Arizona constitutional amendment would levy a 3% gross income tax to pay pensions to the aged, the blind and disabled war veterans. The state already has a 2% sales tax.

In Oregon, which does not at present have a sales tax, a referred measure seeks to impose a 3% tax on gross receipts from retail sales of tangible personal property, to provide funds for old-age assistance, property tax relief, and common school support.

● **Aid for Veterans**—War veterans call for special attention in half a dozen states. Both Alabama and Arkansas are considering constitutional amendments to let any member of the armed forces vote without paying a poll tax. Alabama sweepingly includes in the compensation anyone in the armed service at any time, past, present, or future when the United States was, is, or shall be at war with any foreign state.

A California proposal would provide a bond issue of \$30,000,000 to be used in assisting veterans from the state to acquire farms and homes. In Oregon a proposed constitutional amendment seeks to levy a two-mill additional property tax to build a fund for loans to veterans on security of farms or homes. ● **Wider Security**—A Washington state initiative petition would widen social security benefits generally and extend unemployment compensation to veterans.

Citizens of Louisiana will vote among others, a constitutional amendment to guarantee the repayment of 25% of loans made for the purchase, improvement of any plants or facilities used in processing or marketing the state's agricultural products.

In Minnesota a constitutional amendment would empower the state to issue up to \$15,000,000 in bonds for airport development and authorize tax on aircraft fuel to gain revenue for any such activity.



Undergoing wind-tunnel tests at Wright Field, a salvaged Nazi robomb—suspended upside down—provides aerodynamic data for a U. S. version of the V-1.

# Trial Termination

Rehearsal for the real thing  
can help contractor clear decks  
for quick change-over to civilian  
products when cutbacks arrive.

The War Dept.'s experiment with pretermination planning, or "dry-run" termination, now promises to turn into something big for war contractors. If manufacturers are fast on their feet—and if V-E Day cutbacks don't overtake them too suddenly—many may be able to use the dry-run system to clear the decks for a quick change-over to civilian production when their war orders end.

**Dress Rehearsal**—Pretermination planning is a dress rehearsal for contract termination. The contractor is supposed to assume that his contract has been stopped. He goes through all the motions of taking inventory, allocating cost, filling out forms. Then he presents a sample claim to his contracting officer and the two work out formal or informal agreements on all points that can be settled in advance.

The War Dept. has been trying out pretermination planning on a small scale for several months (BW—Sep. 23, 1944, p. 5). Late in September, Robert H. Hinckley, director of contract settlement, gave it official approval and confirmed the right of the procurement agencies to make settlement agreements before termination actually occurred.

**Pushing It Hard**—When pretermination planning procedure was first announced, it looked as though V-E Day cutbacks might break before contractors had a chance to make any trial runs. Now, with the big cuts still in the future, the War Dept. has decided to push it hard. Procurement officers are ready to talk dry-run termination with any contractor who comes in.

Theoretically, pretermination planning could be carried to the point where it would take care of everything but the actual count of the quantities the contractor has in inventory when he gets his stop order. In practice, few if any agreements will go that far on all points.

**Count and Multiply**—In industries where the operation is fairly simple and where there is no problem of scrapping semifabricated parts, pretermination work will come closest to reducing the V-E Day job to a business of count and multiply. Procurement officers have found that the textile industry fits well into this pattern.

Industries building a complicated product—particularly one that has no civilian use—will find that some of their termination problems can't be solved by



## AFTERMATH

In Cleveland three storage tanks of the East Ohio Gas Co. form a background for a scene of destruction paralleled only in bomb-torn Europe. Crumpled steel (right) is all that remains of two companion tanks that exploded last week, devastating ten city blocks, killing an estimated 200 persons, and running property damage past the \$7,000,000 mark—of which the company claims \$4,000,000. Built

at a cost of \$1,700,000, the intact spherical tanks, and those destroyed—one spherical, one straight-walled—were used to store natural gas in liquid state (BW—Oct. 21 '44, p. 49) to offset shortages during peak periods. To determine the cause of the explosion, Cleveland has set up a committee of chemists and engineers, and the company is uncertain whether liquid storage will be resumed. Legislation is being prepared to prohibit such locations within the city limits.

the dress rehearsal technique, although they may be considerably simplified. In many cases, determinations of what to do with special tools, how much to reserve for spare parts requirements, and how to allocate costs among several contracts will have to wait until the genuine stop orders come in.

**Army Is Cautious**—Contractors probably will be happier if they undertake pretermination planning without expecting too much of it. The Army wants to get discussions and plans under way, but it will be cautious about making binding agreements. The possibility of buttoning up the agreements in formal amendments to the contracts will improve as the gap between the date of the pretermination plan and the date of the genuine termination narrow.

The chances are that most pretermination talks will result in informal rather than formal agreements. This doesn't mean that industries with tough termination problems don't stand to gain anything by the new system. Procurement officers point out that the more complicated a company's termination job is, the more time it will save by doing its spadework beforehand.

**Scope Outlined**—Gen. D. N. Houseman, director of the Readjustment Division of the Army Service Forces, lists 13 major subjects that can be threshed out in pretermination talks:

- (1) What type of raw material the contractor wants to retain or to sell.
- (2) What the government needs for other contractors.
- (3) What the War Dept. needs for spare parts or for war reserve.
- (4) What price per unit the contractor will pay for termination inventory, raw materials, or supplies the War Dept. does not need.
- (5) What parts the contractors can return to subs for credit.
- (6) What percentage of profit is fair.
- (7) How the general and administrative expenses and factory burden may be allocated.
- (8) What financing the contractor will need between termination and settlement.
- (9) Whether or not the contractor's accounting system is sufficient to show the data needed in the claims.
- (10) What part of work in process is to be scrapped.
- (11) How to prepare for shipment,



and where to ship scrap or items the government wants.

(12) What will have to be declared surplus and reported to the disposal agencies.

(13) To what extent the contractor is to be delegated authority to settle subcontractors' claims.

• **Speedup Seen**—Procurement officers think that aside from any agreements, the dress rehearsal will speed up actual termination because it will give the con-

tractor experience in taking inventory, making out forms, submitting data. By going through all the motions, a contractor can test the organization he has set up to handle termination. Any weak spots either in plans or in procedure will show up when he starts to take inventory and allocate cost.

In most pretermination planning, the contractor will have to take the initiative. Procurement officers will have a talk with him first, then leave him to

work out his proposals. Once he gets his plans made, he will bring them to the Army and start talking them over. Regional offices of the procurement agencies will handle the negotiations and informal arrangements. Formal agreements will have to clear through Washington.

• **Subs Are a Problem**—Procurement officers think the system will work just as well for subcontractors as for primes. Subs can start negotiations with their

## POSTWAR COMMITMENTS

Definite commitments for postwar business expansion make news today and will make more tomorrow when materials and labor are available for a go-ahead. Here are typical examples of what is in the works and ready for action when restrictions can be lifted:

**Anaheim, Calif.**—General Electric Co. has purchased a twelve-acre plant near the Santa Fe and Union Pacific railroads on which it will build a postwar plant for the manufacture of plastic parts for airplanes.

**Atlanta, Ga.**—Crown Cork & Seal Co. plans to build a branch factory to manufacture beverage bottle caps for the southeastern territory. Cost is estimated at \$2,500,000. Site is a 27-acre tract near Fort McPherson, just purchased by the company.

**Owens-Illinois Glass Co.** announces plans for building a glass container factory on an 80-acre Atlanta tract which it has recently acquired, near the Candler airport. Reported construction cost is \$2,500,000, and the plant is expected to provide employment for 300 persons at the start and 400 more when the full program is completed.

**Baltimore, Md.**—Miller Metal Products Co., Inc., has awarded a contract for construction of a one-story addition of 10,000 sq. ft. of floor space to facilitate reconversion later on to its normal production—steel kitchen cabinets. The company also plans a postwar sales organization in 20 states. Before the war it had sales organizations in only four states.

**Rustless Iron & Steel Corp.** has acquired five acres of land and the buildings formerly occupied by National Fruit Products Co., Inc., adjoining its plant, for postwar expansion.

**The Barcus Engineering Co.,** manufacturers of a patented universal coupling, is installing new equipment for anticipated postwar business.

**May Oil Burner Corp.** has acquired a one-story building for use

as a machine shop in postwar production.

**Cleveland**—S. K. Wellman Co., 1374 East 51st St., has announced postwar plans to double the size and productive capacity of its main plant, by the addition of 100,000 sq. ft. of floor space, and enlarged laboratory facilities, devoted exclusively to the development of powder metal products. The company also has plans to begin operations in Canada, England, Australia, and Africa.

**Chase Brass & Copper Co.,** 1155 Babbitt Rd., has awarded a contract for work including foundations for new machinery, annealing furnaces, pumps, and a ten-ton crane. The cost of the work and the new machinery is estimated at \$600,000.

**Detroit, Mich.**—Consolidated Gas Co. plans to spend \$27,000,000 during the first five postwar years for expansion and maintenance to serve expected increases in population and home construction in its territory.

**Hermosa Beach, Calif.**—Schwarzenbach Huber Co. has purchased the four-acre site and buildings of Golden State Mills formerly used for silk goods manufacture, for conversion to a rayon-weaving plant. The eastern concern plans to make this a headquarters for supply of piece goods to garment manufacturers of the western states.

**Jackson, Miss.**—Armstrong Cork Co., whose only other southern plant is at Pensacola, Fla., has announced that it will build a factory at Jackson.

**Louisville, Ky.**—Girdler Corp. has obtained a building permit for a \$25,000 remodeling and expansion of a building at 30th and Kentucky Sts. to house research and development laboratories.

**New York, N. Y.**—Continental Can Co. announces the acquisition of the assets and business of the Owens-Illinois Can Co., can-making subsidiary of Owens-Illinois Glass Co. with plants at Baltimore, Md.,

McKees Rocks, Pa., and Clearing, Ill.

**Hamilton Radio Corp.,** prewar manufacturer of Hamilton radios for export, announces that it will enter the domestic radio market with sets sold under its own and private brand names.

**Philadelphia, Pa.**—Smith, Kline & French Laboratories, manufacturing chemists, have purchased land on 15th St., north of Hamilton, for the postwar construction of a pharmaceutical laboratory of about 150,000 sq. ft.

**San Jose, Calif.**—General Electric Co. has taken up a 42-acre site for the construction of a plant to manufacture heavy equipment, including large horsepower motors.

**International Minerals & Chemical Corp.** has taken an option on a 32-acre site near the San Jose city limits where it is expected to erect its first Pacific Coast plant. While the firm is primarily engaged in the production of chemical fertilizer, it is believed that the San Jose operation will be devoted to manufacture for the recently acquired Amino Products Co., makers of vegetable protein for flavoring dehydrated fruits and vegetables.

**St. Louis, Mo.**—May Department Stores Co., which owns and operates the Famous-Barr Co., has announced for the latter a \$7,500,000 postwar expansion and improvement program which calls for the construction of three large outlying department stores, modernization of the Famous-Barr downtown store, erection of a new downtown garage and a warehouse addition.

**Tacoma, Wash.**—The West Coast Grocery Co. has purchased from the Union Pacific R.R. a five-acre site on which it will erect a new warehouse and office building to cost between \$250,000 and \$300,000, as soon as materials and labor are available.



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Since 1913, when the Income Tax law first made individual employees' earnings records necessary, the complications of payroll accounting have steadily increased. Wages and hours legislation, social security programs, withholding taxes, accounting for war bond deductions and purchases, and other special items—all presented new problems. But the new problems were constantly anticipated with new Burroughs machines and features, providing both large and small business with maximum savings in time and money.

Because there are so many different types and styles of Burroughs payroll machines—so many advanced features—Burroughs can always furnish the exact machines and methods best suited for your particular needs. This wide choice makes possible the integration of all aspects of the labor accounting job—payroll, cost distribution, earnings calculation and accrual, etc.—so that fewer machines and fewer hours are required. It is easy to understand, then, why the great majority of employers choose Burroughs when selecting payroll equipment.

As conditions change—as new problems arise in labor accounting—Burroughs will continue to fulfill the obligations of leadership by being first with new developments and machines.

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primes, make trial runs, and subclaims to the primes to be passed along to the Army. Getting the subs lined up and ready for quick action is one of the biggest fields for pretermination planning by prime contractors.

How far a company carries its pretermination planning will depend on its particular circumstances and on the time and staff it can give to the job.

• **Studebaker's Test**—One of the most elaborate rehearsals to date is the one the Studebaker Corp. ran off last summer. Studebaker, one of the pioneers in the pretermination planning experiment, took its contract for the M1 and M29C cargo carrier (the Weasels). It segregated all inventory, decided what much should be scrapped, prepared a schedule of claims and the explanation of them.

Early in September, Studebaker brought the Chicago Ordnance District office a proposal for a formal pretermination agreement covering everything but quantities. It requested decisions on recommendations for disposal of material, on the allowable percentage of factory overhead, on the administrative overhead, and on the propriety of the items it had included in its forecast of post-termination expenses.

• **Production Rate Assumed**—Along with the proposal went a full set of termination forms, filled out on the assumption that at termination production would be going at approximately the current rate.

Chicago Ordnance passed Studebaker's proposal along to Washington, got approval for the general principles, and is working on the terms of a formal agreement.

Meanwhile, Studebaker has gone ahead with two other big pretermination projects, a dry-run termination of its 24-ton medium truck contract and an educational campaign among its subcontractors.

## MANPOWER FOR RAILS

National A-priority rating for manpower has been given the 13 railroads serving the West Coast, where the Office of Defense Transportation reports congestion has been increasing for the past six weeks (BW-Oct. 7 '44, p. 15) resulting in the slowing of war freight shipments.

With growing emphasis being placed on the war in the Pacific, immediate needs of western railroads for a minimum of 974 switchmen, 1,030 brakemen, and 329 firemen must be met without delay, the War Manpower Commission said in setting the priority.

# "HEART DISEASE...but I've never been sick in my life!"

Why should heart disease strike a man of health and vitality?

Well, the doctor explained, you know how age affects your face and hands and hair. Over the years, your heart grows older, too, so that it may be less able to meet the demands of strenuous living. Unless you learn to know and live within the capacities of your heart, you may



Sudden exertion is a thing to avoid

risk serious coronary heart disease even in the very prime of life.

Just what is coronary heart disease?

Coronary heart disease simply means that the walls of the coronary arteries—that is, the arteries feeding the heart muscle—have hardened up a bit, become thicker, and have lost some of their elasticity. As a result, the heart muscle receives less blood and thus less food and oxygen. Naturally, if you then make excessive demands on your heart, you're inviting trouble.

Coronary heart disease is the most common form among men past forty. Even at younger ages you should watch for such possible warning symptoms as excessive fatigue, shortness of breath, chest pains, or oppression near the heart.

What can be done about it?

First, see your doctor and be guided by his advice. If the attack is severe, he



It's wise to get at least 8 hours sleep every night.

may prescribe a period of complete rest in bed.

The doctor will surely recommend the rules for living which everyone over forty



would be wise to follow as a PRECAUTION against heart disease.

For example, the doctor will advise moderation in all things. He will stress the importance of avoiding sudden exertion—of not trying to be a "week-end athlete"—the wisdom of getting plenty of sleep and avoiding overweight. Peri-



Walking, in moderation, offers pleasure without strain.

odic physical examinations will probably be recommended, including X-ray, laboratory, or other tests.

Must patients become invalids?

No—so long as they don't overdo. Diagnosed early, the damage to the heart may be negligible. Besides, it should not be cause for needless worry. Today, thousands of people who have heart disease,

and who take care of themselves, are living virtually normal lives.

Strict self-discipline, to gain freedom from all worry and strain, is of primary importance. Less competitive forms of physical recreation should be found. In other words, it is necessary to relax.

For valuable information concerning the hearts of young and old, send for Metropolitan's free booklet, "Protecting Your Heart."

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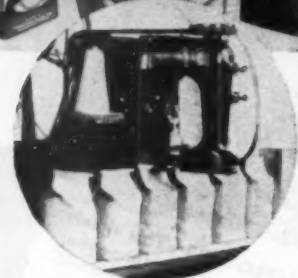
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## Water for Arizona

State's assurance of a share from the Colorado brings to life three plans—all expensive—for increasing irrigation.

The irrigation ambitions which motivated Arizona's unswerving refusal for 20 years to cast its lot with the six other states in the Colorado River basin are slowly emerging from the dream stage.

• **Choosing a Course**—In cooperation with the U. S. Bureau of Reclamation, Arizona is making final surveys for a system of dams and reservoirs, canals and tunnels, to carry the waters of the Colorado to the dry but arable lands in the central part of the state.

As now conceived, any of the three alternative postwar plans under consideration would cost more than the Panama Canal, more than that part of the Boulder Dam system already built, from \$700,000,000 to \$978,000,000. Whichever is chosen, the job will be heavy engineering on a grand scale.

• **Problem in Distribution**—Early this year, Arizona won its long fight with the other states for a guarantee of 2,800,000 acre-ft. of water annually from the Colorado and signed a contract with Secretary of Interior Harold L. Ickes specifically reserving that

amount to the state's use (BW-Feb. 19'44, p31).

How to harness and distribute the water is the problem now confronting the state.

• **Common Terminus**—All three projects under examination would deliver the load to Granite Reef Dam on the Salt River a short distance above Phoenix, but from different waterheads of the Colorado and over different routes (map, below):

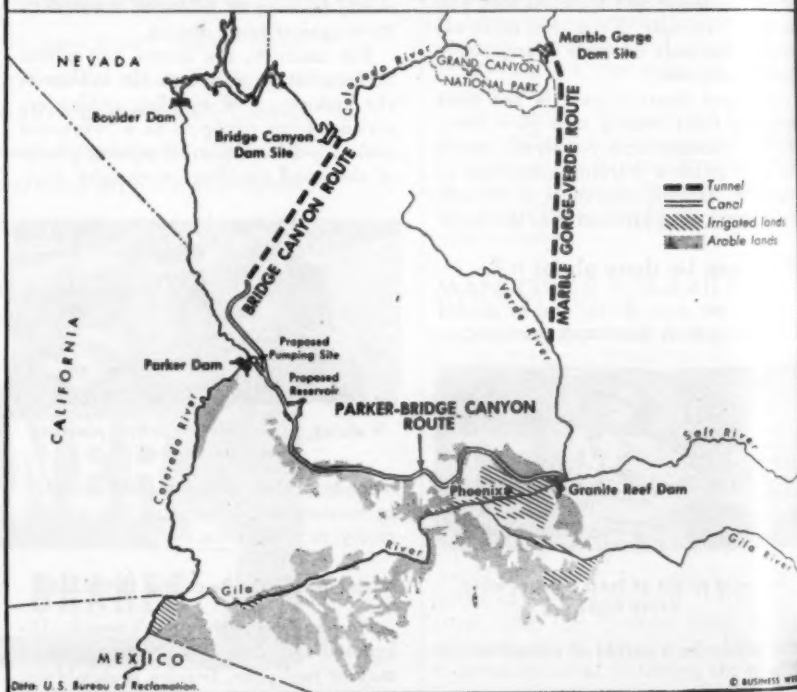
(1) From a high dam at Marble Gorge above the Grand Canyon National Park, water would be conducted through a tunnel 139 mi. long to Verde River a tributary of the Salt, and thence to Granite Reef Dam. Including a series of storage and power dams in the Verde Valley, construction cost is estimated at \$978,000,000.

(2) From a dam in Bridge Canyon just below Grand Canyon, the water would be conducted by a tunnel 72 mi. long and a canal 82 mi. long to a 400,000 acre-ft. reservoir, thence by a canal 180 mi. long to Granite Reef Dam. Estimated cost is \$881,000,000.

(3) From Lake Havasu, just above Parker Dam in the Colorado, pumps would lift the water 1,040 ft. to a point where it could be shunted to the reservoir contemplated in the Bridge Canyon plan, and thence by canal to Granite Reef Dam. Estimates place the probable cost at \$700,000,000.

• **Dams Included**—In each instance the estimated costs include substantial

## ARIZONA'S IRRIGATION PLANS



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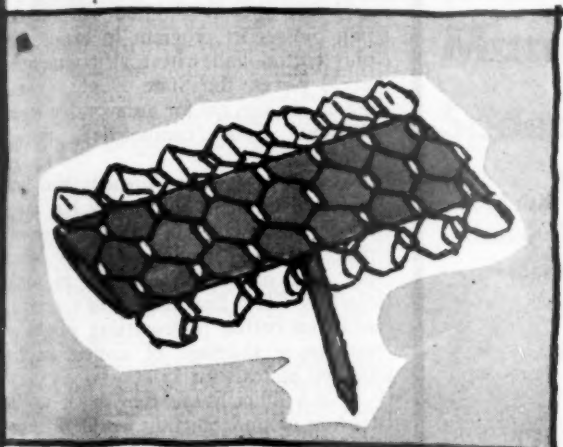
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# SANTA CLARA COUNTY

*California*

The population center of the Pacific Coast

amounts for power dams in the Colorado River which are likely to be built regardless of the choice of irrigation projects.

In calculating the probable return the Bureau of Reclamation notes that any of the plans would irrigate some 500,000 acres of land which existing irrigation systems fail to reach. This, it is asserted, would assure an annual return of \$35,000,000 in agricultural crops.

• **Power Potentials**—The greater possibilities of the Marble Gorge project give it an edge over the others. Engineers estimate the power potentials at Marble Gorge, 2,038,000 kw.; Bridge Canyon, 1,672,000 kw.; Parker, 1,842,000 kw.

## Export Problem

Plan to offer cotton and wheat at competitive world prices may bring economic warfare and force stabilization agreements.

While the War Food Administration presses its program to export surplus cotton and wheat at competitive world prices, the State Dept. is conducting an anxious ear for unfavorable repercussions from competitive foreign sellers.

• **Threat to Coffee**—Already, the Brazilian government informally has made known its disfavor of any U. S. export program that would adversely affect the price of Brazilian cotton in world markets. The Brazilians don't need to add that cotton price-cutting might result in a shortage of coffee in the United States.

WFA officials say they have no intention of undercutting world prices of any farm commodities; that, on the other hand, recent domestic pricing policies have raised, not depressed, foreign cotton.

• **Canis More Than U. S.**—Brazilian cotton was selling for 13¢ a lb. prior to the political hike in cotton prices in the U. S. (BW—Oct. 7'44, p. 21). More recently, it has been selling for 15¢ a lb. That rise is nearly five times the congressional increase in U. S. prices.

U. S. cotton exporters believe that even though this country offers cotton to the world at the same price as Brazil, the Brazilian price will then be cut; and that if the U. S. follows the price down it will be only a little while before Brazilian cotton will drop sharply.

Long before a price of perhaps 12¢ would be reached, however, it's expected that the State Dept. would call



halt to any further price reductions  
U. S. cotton in world markets. Agree-  
ment might then be forced with Brazil,  
and ultimately with India and Egypt,  
to stabilize world cotton prices (BW-  
p.30'44,p10).

**Depends on Surplus**—As for wheat,  
price-cutting is likely between Can-  
ada and the U. S. in a bid for world  
markets, but the situation could change  
when surplus wheat from Argentina  
and Australia comes into the picture.  
Here again, agreements on a world  
price would be necessary to prevent  
economic warfare.

Starved for business in recent years,  
the exporters of both wheat and cotton  
are eager for almost any program that  
will increase foreign sales of these com-  
modities.

**The European Possibilities**—Domestic  
millers expect that for a while  
sales of wheat flour, whole-wheat  
flour, and semolina can be made in  
Europe where mills have been de-  
stroyed. The cotton exporters are not  
optimistic since Japan—a big prewar  
consumer of cotton—is out of the mar-  
ket.

A complicating factor in the Euro-  
pean business is that lend-lease does not  
expire until next June. Meanwhile, any  
cotton and wheat going to France (and  
possibly to Italy) might be lend-leased.  
Japan has been buying some American  
cotton, and Belgium may soon be in-  
terested.

**CCC Would Set Prices**—Under the  
export subsidy program as now drafted,  
the Commodity Credit Corp. would  
calculate and announce from time to  
time the export prices. Exporters would  
then seek foreign buyers and register  
the trades with CCC.

The wheat or cotton would either be  
applied by CCC or (at the latter's di-  
rection) purchased by the exporter for  
CCC account in the domestic market  
at the domestic price. In the latter  
case the wheat or cotton would be re-  
sold by the CCC to the exporter at the  
designated subsidized export price.

The plan contemplates actual sale  
and shipment out of the country to  
fill a specific contract. If the shipment  
is not made within a specified period,  
the exporter would be subject to pay-  
ment of a penalty equal to the amount  
of the subsidy.

**Domestic Protection**—CCC officials  
believe that this system would prevent  
the subsidized cotton or wheat from  
finding its way into the domestic mar-  
ket. To block reimportation of cotton  
or wheat which has actually been  
shipped out, the Agricultural Adjust-  
ment Act of 1933 and other statutes  
furnish authority to bar importation of  
a commodity which interferes with  
domestic control programs. This em-



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# MOBILIFT

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bargo also may be applied to commodities of foreign origin. In any case, reimportations would be subject to import duties.

Subsidies on flour and textiles would be at the same rate as on the raw materials. The same injunction against reimportation would apply to them, and to products processed abroad from the exported raw commodities.

● **Happened Before**—The present situation is similar to that which existed just before the outbreak of war in Europe, after U. S. cotton and wheat had been priced out of world markets during the 1930's. Resorting to export subsidies, CCC sold 100,000,000 bu. of wheat at 27¢ a bu. below domestic prices in 1938-39, and more than 6,000,000 bales of cotton at a subsidy of 1½¢ a lb. the following year.

## Poser for Coast

Hostility toward evacuated Japanese makes a hot issue of their ultimate reintegration in the American scene.

Before long, the hot Japanese question on the Pacific Coast is coming to a head, and many observers believe that the evacuated Japs and Japanese-Americans will be returning to the Coast long before Tokyo surrenders.

● **A.C.L.U. Intervenes**—At least three recent developments support that belief. Several weeks ago the constitutionality of the Army evacuation orders was argued before the U. S. Supreme Court by American Civil Liberties Union attorneys representing Fred Toyosaburo Korematsu and Mitsuye Endo, California-born Americans of Japanese ancestry now detained in war relocation centers.

Korematsu, convicted for failing to report for evacuation from his San Leandro (Calif.) home, appealed from an adverse decision by the Ninth Circuit Court of Appeals, San Francisco. Miss Endo of Sacramento, Calif., seeks release from the Tule Lake (Calif.)



Signing up new members and collecting contributions (below), the Remember Pearl Harbor League fights the return of relocated Japanese to the West Coast. One of the organization's placards is displayed by a Coast Guard petty officer (left).



Segregation Center on a writ of habeas corpus.

● **Army May Act**—Many believe that the Army soon may rescind the drastic evacuation orders imposed on Japanese by Lt. Gen. J. L. Dewitt a short time after Pearl Harbor.

This belief is based on several facts: (1) The necessity for military security now is nearly past, with Japan fighting defensively on its very doorsteps.

(2) A few weeks ago the Army began recruiting Japanese from relocation centers to work in ammunition depots (handling ammunition that will be used in the war against Japan).

(3) Maj. Gen. Charles H. Bonesteel, in charge of the Western Defense Command, already has issued several certificates of exemption to Japanese to return to the Coast. One went to a 19-year-old girl who left the War Relocation Center at Granada, Colo., to enroll at Pasadena (Calif.) Junior College.

● **They Face Opposition**—But if persons of Japanese blood do return to the Pacific Coast before or after the war, they are going to face opposition which seems to be building up steadily.

Many California organizations already have put themselves on record against the return. They include the California department of the American Legion and the Associated Farmers (BW—Apr. 29 '44, p. 28).

In the Puget Sound area in Washington, organized opposition has spread rapidly since the organization early this month of the Remember Pearl Harbor League in the White River Valley near Seattle.

A thousand persons recently attended the first league meeting at Auburn, Wash., where Benjamin Smith, a Kent dairyman, presided as president.

● **Two Reasons**—Basis for the opposition is twofold, emotional and economic. The enmity antedates even this century and has been heightened by the attack on Pearl Harbor and Pacific war casualties. Others haven't forgotten depression days, when Jap farms and stores seemed to prosper while occidentals went broke.

As long ago as April, 1943, the Seattle Chamber of Commerce went on record opposing the return of Japanese for farm work "or any other supposed need."

● **How Many?**—The 1940 U. S. census showed that of the 14,565 Japanese in Washington, 9,863 lived in King County (Seattle). Of the King County Japs, 3,896 were alien. At the same time, Oregon had 4,071, of whom 1,617 were foreign born.

It is estimated that in 1941, up to 1,000,000 lb. of Japanese-grown berries and vegetables were purchased by processors in Washington and Oregon.

Just how firmly the Japanese were in-



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*tries into close-by market places and vacation lands — reached by air at a cost that may be less than yesterday's first-class steamship rates.*

*In the Air Age, all peoples will be closer together and, as neighbors, will understand each other better.*

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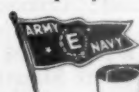
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MADISON SQUARE GARDEN



### OFF THE TRACK

Orderly destruction follows the Army's recent shutdown of its ordnance training center and Japanese evacuee camp at the Santa Anita race track near Los Angeles. Occupied as a military post for more than two years (BW—Jul.18'42,p19), the bang-

tail course has been mustered after housing 22,000 Japanese and 18,000 troops at various times. To break camp, a Seabee crew has razed Santa Anita's 700 temporary-type buildings in only six weeks. In doing this job the Navy collected a dividend: some 7,000,000 b.ft. of lumber which was hauled to naval bases.

trenched in western Washington is perhaps best illustrated by the fact that they farmed 9,052 acres, with a crop value of \$3,120,205.

Persons of Japanese ancestry once operated 50 of the 80 greenhouses in Seattle; 206 of the 325 hotels; 53 of the 500 restaurants; 140 of the 840 groceries; and 90 of the 390 dry-cleaning establishments. Employed in the state's vast lumber industry were 5,970 Japanese; in the Alaska salmon canning industry, 500; in the oyster industry, 184.

• Shifted 112,985—When the War Relocation Authority had finished its moving job, 112,985 Japs had been shifted in the three Coast states and parts of Arizona. California lost 93,717, Oregon 4,071, and Washington 14,565. Of California's Japs, 60,148 were American citizens; Oregon had 2,454, and Washington, 8,882.

Wholesale and retail business once occupied the attention of 11,472 of the Japanese in the three states.

• Releases in Progress—For many months now, releases of Japanese have been in progress from eight of the existing War Relocation Centers at Manzanar, Calif.; Colorado River, Parker, Ariz.; Gila River, Rivers, Ariz.; Central Utah, Delta, Utah; Minikoka, Hunt, Idaho; Heart Mountain, Heart, Wyo.; Granada, Lamar, Colo.; and Rohwer, McGeehee, Ark.

Last June it was found necessary to close the relocation center at Jerome,

Ark. On Sept. 30, of this year, the eight camps and segregation center at Tule Lake, Calif. (where alien and American troublemakers are housed) had 76,495 internees. Of this total, 18,710 were labeled as troublemakers. • Many in Midwest—Where have the Japs gone? Many have found employment in the Midwest and have been released. Illinois has 7,200 Japs who had been evacuated, with 5,800 working in Chicago. Colorado has given jobs to 3,213, while Utah has 2,047.

The War Relocation Authority has relocation officers in many states. Once a manufacturer or farmer shows interest in evacuated Japanese as possible employees, he either contacts a relocation officer or goes to the nearest center.

The WRA furnishes railroad coach fare, meals, and \$25 each (not to exceed \$100 for one family) to Japanese released to work elsewhere. WRA officials estimate that from 25,000 to 30,000 evacuated Japanese never will return to the Coast.

• Start From Scratch—The Japs who return will have to start life anew. Most of their retail establishments were sold as were many farms. Farms that were leased will be reoccupied. But many farms have remained idle, their fields and fruit trees untended for more than two and a half years. It will take years to rehabilitate many farms.

Many acres of farm lands held by alien titleholders will be escheated by



## How the army gave selective service tests to Tires

BEHIND THE BATTLEFRONT achievements of synthetic rubber tires is an enlightening story of Army testing.

First, engineers made a thorough study of the tough conditions that tires must face in combat areas. Test courses were then built to exact specifications. Sections of gravel, sand and rock were arranged to give scientifically accurate results.

For months, truck after truck pounded over these punishing courses . . . 24 hours a day. Each one of hundreds of tires was carefully and frequently checked, examined, analyzed . . . by tire experts and by precise measuring instruments. Finally, the results . . . so inescapably conclusive that there was no doubt as to the answer.

It is now possible to reveal the results of those "combat-condition" tests. These results do not necessarily apply to

any other conditions of service. The tests showed, for example, that when large-size synthetic rubber tires were made with rayon cord . . . they averaged 93% better for rough cross-country terrain, where bruising and cutting are principal problems. And they averaged 330% better for long distance supply work, where heat and sustained operation are principal problems. That's why every pound of rayon for tire cords is needed for the Armed Services and essential home front transportation.

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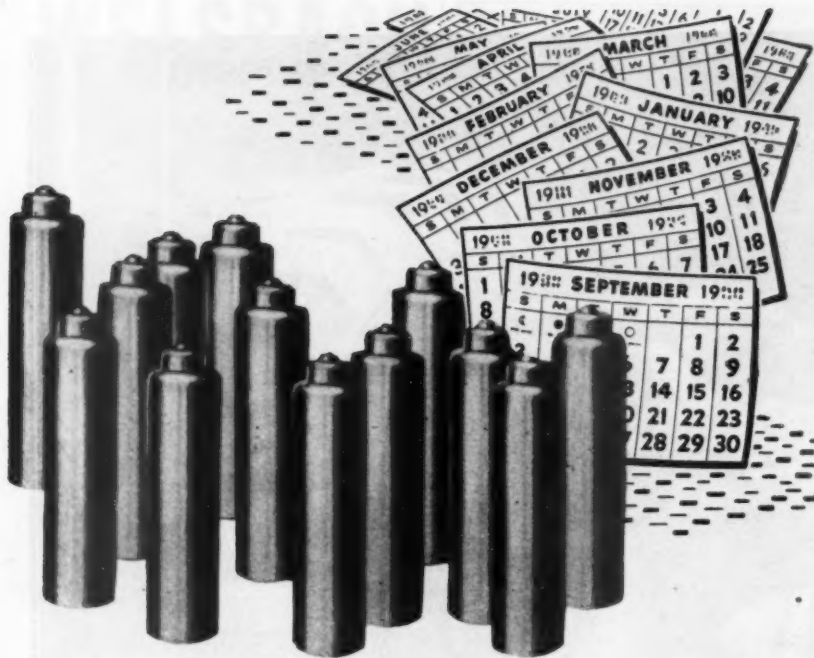
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At present the bulk of Pressed Steel Tank Company's facilities are given over to products intended for war purposes. However, as war restrictions are relaxed and there's more material available for civilian needs, every concern can benefit from Hackney's product development work and volume manufacturing.



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the state. Escheat provides that the state may seize land in the public good with no remuneration when it is held by owners with no lawful right to it. In California property cannot be owned by persons ineligible for citizenship, which is the case of native-born Japanese.

• **Precedent Set**—In past years, much California land was acquired through dummy purchasers. A few weeks ago a California judge authorized the state to proceed with escheatment of 30 acres of truck farming land near Stockton. The beneficial owner was held to be Kiyeshi Watanabe, now held in a relocation center. The judge upheld the state's contention that while an American-born son-in-law, Hidenori Asano, held the title to the deed, his father-in-law was the real owner.

This decision is expected to bring a flood of similar actions, which were held up pending its outcome.

• **Toughest in Cities**—The Japanese who formerly lived in any Pacific Coast city probably will face the greatest task of adjustment. In most instances he will find his former living quarters occupied by others. In Los Angeles, "Little Tokyo" is occupied by Negroes, Mexicans, and other war workers. In San Francisco, Jap Town is solidly occupied by Negroes.

There are some persons on the Pacific Coast who believe the evacuees will have damage claims against the government. Certainly there is bound to be some damage and deterioration to household goods and other property hastily stored in the nine WRA warehouses in Coast cities.

## VITAMIN SUIT PUSHED

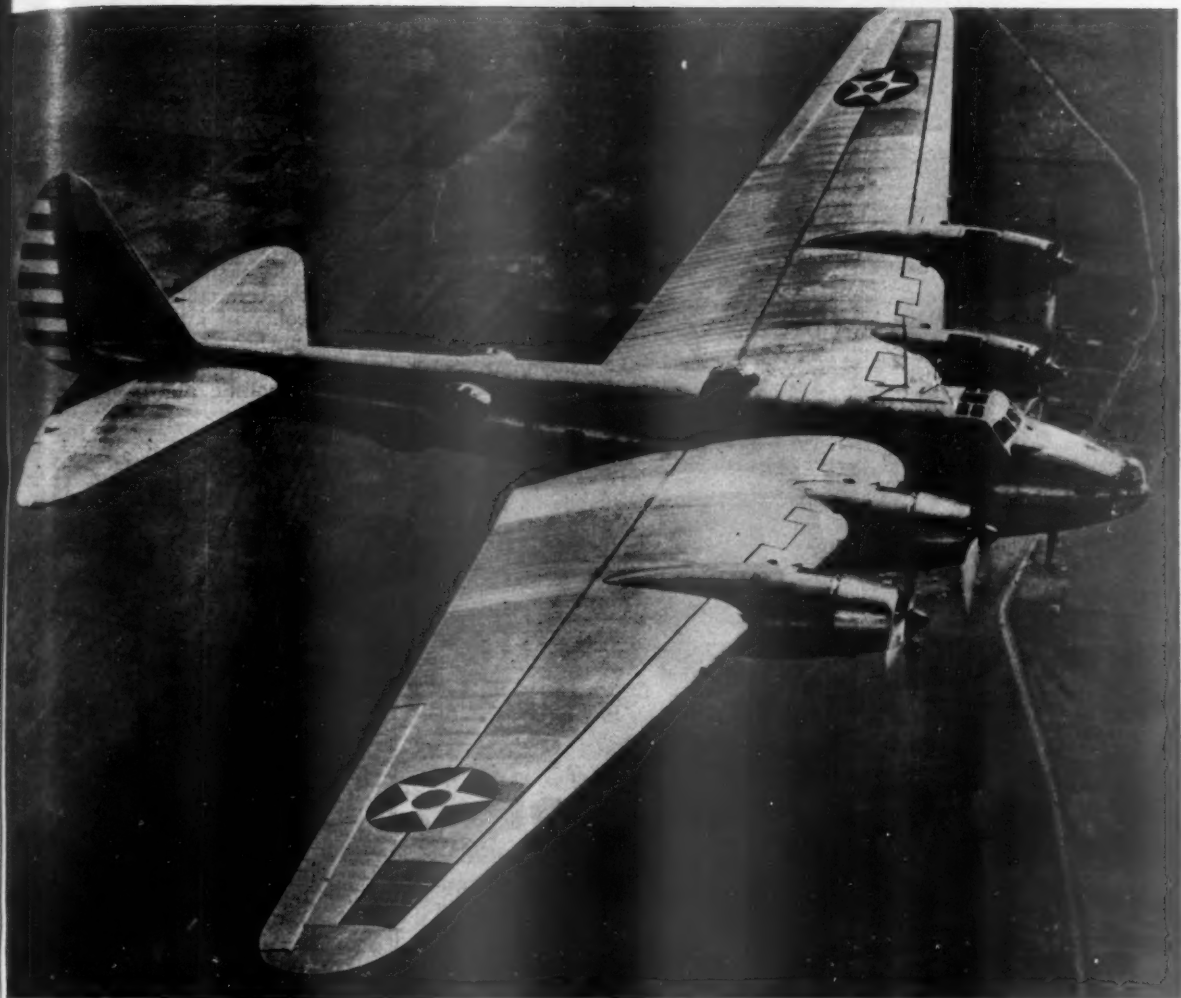
The Justice Dept.'s Antitrust Division is now up to its ears in the patent-infringement suit which the Wisconsin Alumni Research Foundation has brought against Douglas Laboratories on behalf of its Steenbock patents for producing vitamin D by ultraviolet irradiation.

Previously, the division received permission of the U. S. District Court in Chicago to intervene for Douglas (BW-Sep.16'44,p83). Now the division has blown the case up to major dimensions by naming as counterdefendants 17 Steenbock licensees charged with participating in a conspiracy to divide the fields of manufacture, use, and sale of vitamin D products, with agreeing on prospective licensees, and with suppressing competition among licensees and between licensees and other companies.

The Justice Dept. asks that the Steenbock patents be declared invalid and seeks a permanent injunction to prevent future joint action based on the patents.

Counterdefendants include E. I. du





Boeing B-15 . . . first of the Superbombers

## "Grandpappy"

Today's history-making bomber is the Boeing B-29 Superfortress. But there is another huge plane still in service that years ago laid the groundwork for the B-29. It is the one airplane never spoken of in the feminine gender: "Grandpappy," they call the Boeing B-15 . . . first of the superbombers.

Even by today's standards, "Grandpappy's" long range and load-carrying ability were phenomenal. But back in 1937, when he made his test flights, the most powerful engines available gave him a top speed of only 200 miles an hour. So he was passed by in favor of the lighter, swifter Boeing B-17 Flying Fortress, then undergoing tests.

Though never in combat, "Grandpappy" has led an adventurous life. In 1939 the huge plane carried serum to earthquake victims in Chile, covering 3000 miles non-stop on the return trip. Today, thundering over the Caribbean, he's flying 15-ton cargoes to Army bases. He can go out for 24 hours at a stretch without landing to refuel.

The walls of his crew's living quarters are covered with thousands of autographs scrawled by generals, admirals, senators and buck privates.

But "Grandpappy's" greatest satisfaction is in knowing he helped make possible the building of the great Boeing B-29 Superfortress.

For more than any other aircraft manufacturer, Boeing has pioneered in the problems of long-range bombardment through development of the B-15 and B-17. In addition to this, the Stratoliners and Transocean Clippers have given Boeing unequalled experience in 4-engine aircraft, making it the company which could design, produce in quantity and get into action during wartime the world's greatest bombing weapon — the Boeing B-29 Superfortress.

Tomorrow, as today, Boeing principles of research, design, engineering and manufacture will be an assurance that any product . . . "Built by Boeing" . . . is bound to be good.



# Supercharger

## 1690 MODEL

The hand bellows used by the early settlers and still hanging beside many fireplaces is the grandfather of today's Supercharger. Down through the line of descent — bellows, blower, supercharger—the function has been to force denser air into the combustion zone. In the fireplace "supercharging" burns the wood faster, making a brighter fire; in a diesel's cylinders it burns more oil per piston stroke to deliver greater power. Compressing the thin air of high altitudes to restore sea level power to airplane engines is a very effective use of

Supercharging. It is equally effective for increasing the power of diesel, gas, or gasoline engines in the "heavy" air most of them have to work in.

Supercharging an engine with more air under pressure than normally drawn in on the suction stroke will burn correspondingly more fuel and will deliver as much as 40% more useful power . . . without appreciable added stress or wear on engine parts.

If you are a manufacturer, let us work with you in designing your engines to permit Supercharging. If you plan to buy engines, ask if they are designed for Supercharging.



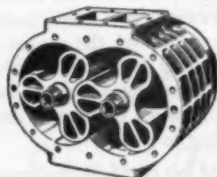
Whether the bulldozer goes right through or backs off for a second or third crack at the obstacle may depend on whether its engine is Supercharged.



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The Douglas suit gains additional stature as the bellwether for a new Justice Dept. policy of intervening in patent litigation when the trust busters believe that the patent involved has been used for monopolistic purposes (BW-Oct. 21'44,p15).

## Sugar Beets Off

Processors are caught in a price squeeze as crop drops below normal. About one-third of the plants won't open.

Processors of sugar beets are working on their second successive short crop, and, as in 1943, close to one-third of the nation's 85 processing plants won't even open this season.

• **Less Than Normal**—The crop will approximate 7,239,000 tons (table, page 41), which, at the ten-year average of 290 lb. of sugar per ton of beets, will produce about 1,050,000 tons of sugar, compared with a 6,522,000-ton crop, and 933,000 tons of sugar in 1943 (BW-Jul.22'44,p58).

Both years are far under normal. Processors consider 900,000 to 1,000,000 acres planted to beets as normal, but only 548,000 acres were harvested in 1943, and there will be about 597,000 acres this year.

• **Tough for Processor**—The situation is not serious for the consumer, for other sugar supplies are available, or for the farmer who has refused to plant beets because war conditions have made less laborious crops more profitable; but it is hard on the processors whose factories run less than four months a year.

Processors have been trying to induce the government to recognize that costs of making sugar have continuously increased; they report that 1943 production costs per bag were 23.4% higher than in 1941.

• **Beet Pulp Price Raised**—Some concessions have been won. The government recently allowed an increase of \$8 a ton in the price of dried beet pulp, a byproduct used as stock feed, and of 38¢ a ton on wet pulp, both 30% gains.

Also, OPA in revising beet sugar ceil-

## COLORADO FOR BEETS

For the second successive year, the sugar beet crop is below normal. Comparative figures (in tons) on the 1944 and 1943 yields are:

	1944	1943
Michigan ...	540,000	298,000
Nebraska ...	612,000	568,000
Montana ...	705,000	581,000
Idaho ...	675,000	651,000
Wyoming ...	360,000	270,000
Colorado ...	1,419,000	1,623,000
Utah ...	448,000	499,000
California ...	1,120,000	1,064,000
Ohio ...	119,000	72,000
Other ...	1,141,000	720,000
Total ...	7,239,000	6,522,000

ings for primary distributors allowed an increase of 5¢ a 100 lb. to \$5.40.

But these are but drops in the bucket, processors say. Profits of the six largest companies dropped to \$7,575,000 after taxes in 1943, compared with \$10,647,000 in 1942.

Some Diversify—Processors don't favor using their factories to dehydrate other crops. Some plants dehydrated potatoes for the government last spring as an emergency measure (BW-Jul. 14, p. 34), but producers say that the costs were so high that the job could be done only because the government was paying the bills to save a food product.

The War Food Administration has already promised farmers that in 1945 they'll get the average \$12.50 per ton being paid for beets this fall. (The government buys the whole crop and turns it over to processors at about \$9.50, to hold retail sugar prices down.) Processors hope that farmers will plant more beets in 1945.

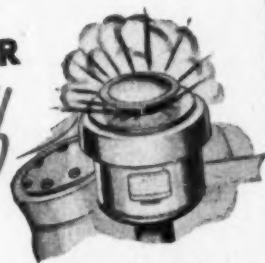
## CANDLES GO TO WAR

One more item that civilians may soon have more than customary difficulty in finding is candles. Standard Oil Co. of Indiana announced last week that it is discontinuing manufacture of many types of candles for civilian use at its Whiting (Ind.) refinery, in order to divert wax and trained manpower to filling greatly increased government orders.

Candles are included in all armed forces emergency kits. Among their uses are: to provide light in areas where no other light is available; to heat food in small tents where it is impossible to light fires; to relieve dampness in wet weather; and to dry small tents and equipment. Drippings are used to plug worn spots in leaky tents, and to provide waterproof coatings for small objects.

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IF IT USES AIR... USE

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# Lard Glut Eases

Heavy stocks of lard and pork fat melting fast. Packing industry sees possible shortage of shortening for civilians.

Lard stocks available for civilian consumption are shrinking fast, and pie may become less plentiful on home and restaurant menus. The packing industry's year starts on Oct. 1. But long before then it was evident that the lard glut of early summer was moving rapidly toward scarcity.

• **Figures Are Behind**—Statistics have not kept fully abreast of shifting lard storage methods. Prewar lard figures came from the Dept. of Agriculture, which still tallies all lard kept in conventional cold storage, but practically none elsewhere.

Tremendous government accumulations of lard months ago (BW—Jul. 1 '44, p. 24) had to go into unrefrigerated spots including brewery vats, soap-factory tanks, and cool cellars. Nobody knows how much of its hoards lend-lease has shipped by now, and accurate, up-to-date figures on warehouse space are elusive. But cold storage space is definitely easier.

• **Packers Are Skeptical**—The new places where lard has found storage haven't been counted by the Bureau of Census. Packers are skeptical about the two sets of federal figures.

The Dept. of Agriculture's figure for lard and pork fat in storage on Sept. 1, 1944, is 244,000,000 lb.; this includes 112,903,000 lb. government-owned, largely for lend-lease. Census reports 609,000,000 lb. for the same date.

This discrepancy consists largely of lard purchased for the United Nations Relief & Rehabilitation Administration during the heavy hog run months ago.

• **For Overseas**—All 365,000,000 lb. of the Census-reported lard uncounted in the Agriculture figure is headed for eventual overseas shipment in accordance with long-term plans. Hence packers consider it neither available to meet the impending shortage nor a threat to domestic markets.

The lend-lease lard tallied by Agriculture also forecasts lighter buying than last year. If this reduction in lend-lease buying materializes, it could cancel out much of the expected reduction in lard production and give civilians nearly as much lard as they would like to buy.

Corn Belt farmers and the meat industry view with alarm anything tending to discourage civilian use of lard which has risen sharply during the war

at the expense of scarce hydrogenated vegetable shortenings.

• **Yield Cited**—An excellent index of the increased demand is the average yield of lard and rendered pork fat per head of hogs slaughtered under federal inspection. The five-year average was 31.6 lb.; in 1942-43 it was 32.4 lb., and for the year ended last month it was 34.7 lb.

Total federally inspected lard production for the year ended Sept. 30, 1944, was 2,540,000,000 lb. Production for the year now starting is estimated at 1,750,000,000 lb. Stocks of lard and rendered pork fat in refrigerated storage have moved steadily downward even faster than the normal seasonal decrease. The figures on the first day of each of the past six months were:

	Thousand Pounds
May, 1944 .....	498,000
June .....	489,000
July .....	420,301
August .....	342,450
September .....	244,040
October .....	167,453
October, 1943 .....	160,535

# Weather Profits

Meteorological forecasting offers business an opportunity to bolster income in many ways by anticipating changes.

The Weather Bureau is going to burst its seams after the war because of new demands being made on it by business and industry unless the thousands of meteorologists trained by the military come to the rescue and set themselves up as industrial weather consultants.

• **A Natural Resource**—The weather, generally regarded as a hazard, is the greatest natural resource, which business finds profit in exploiting. Weather is inexhaustible. One New York bakery chain saves \$250,000 a year by having a weatherman. A midwestern construction firm saved \$1,000,000 by knowing when to pour concrete for war factories.

With a budget of \$12,000,000, a staff

## Solar Weather: A Military Secret

With the tide of battle in our favor, the lid of censorship has been lifted on many restricted devices and methods. It's still clamped tight, however, on activities at Harvard's coronagraph observatory perched 11,400 ft. up on Fremont Pass, near Climax, Colo.

Hoping to establish a definite link between weather around the sun and that around the earth's surface, Harvard astrophysicists, Donald H. Menzel, and Walter Roberts, directed construction of the observatory late in 1940, have kept continuous watch since then.

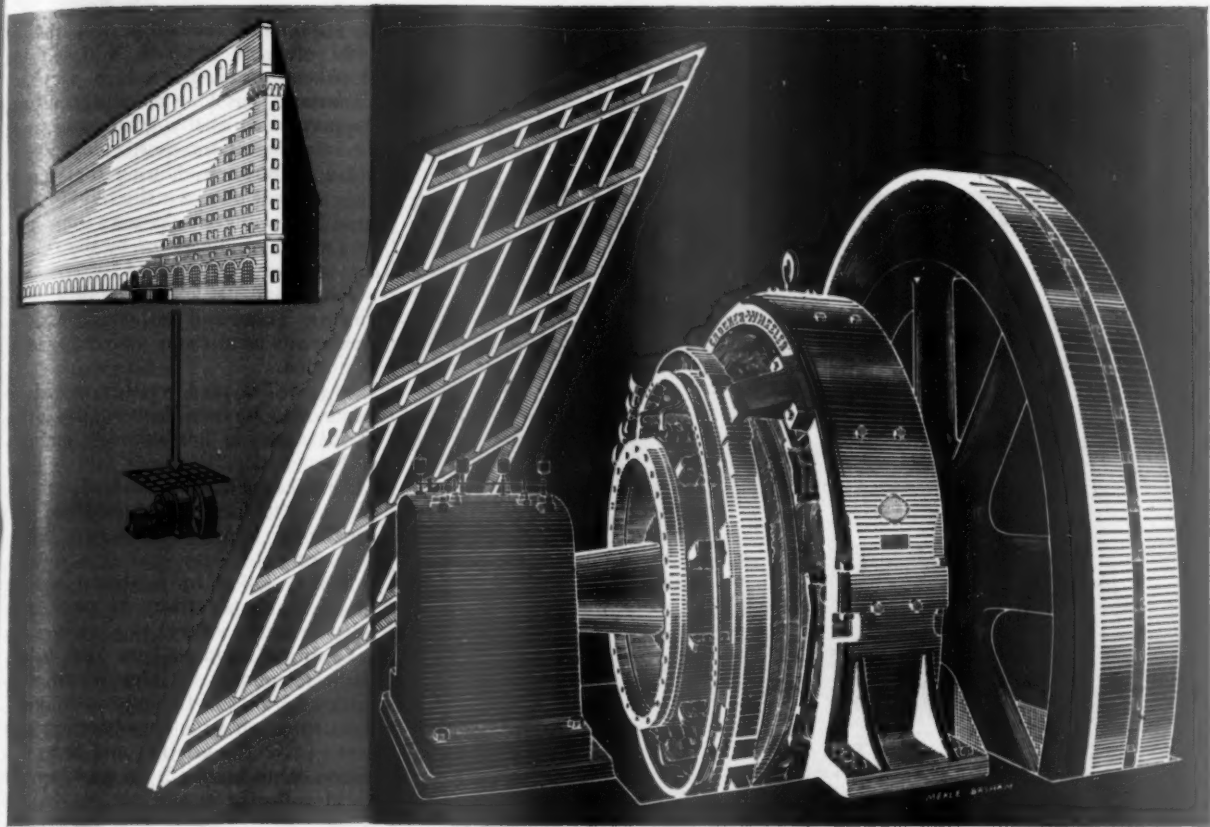
Previously solar coronas were photographed only during natural eclipses, but the coronagraph—originally developed by Bernard Lyot of France's Pic du Midi observatory—has been taking corona snapshots in color every ten seconds daily for almost four years. Run off at regular movie speed, each film strip is a motion record of the corona's tumult over given periods.

Creating an eclipse by means of a series of masking screens, the instrument not only makes a pictorial record of corona phenomena but shunts the radiation into a spectrograph for analyzing the colors. Climax Molybdenum Co. supplied the site after learning that operation of the telescope required dust-free atmosphere



as well as altitude. And the construction is as much an industrial achievement as a scientific development. Among the instrument's component parts are lenses by Perkin-Elmer Corp., special alloys by Dow Chemical Co., and insulation by Owens-Corning Fiberglas Corp.

What the daily film strips reveal—what bearing they have on global long-range weather forecasting and on plotting military strategy—will be public knowledge only after the war. For whatever the scientists began finding unexpectedly was apparently of such importance to military security that the observatory and its data have been under close guard ever since Pearl Harbor.



## IMPRISONED FOR LIFE

The Crocker-Wheeler generators that power a famous New York bank building are "lifers." They made a one-way trip down to their operating station which, for architectural reasons, had to be 86 feet below the sidewalks of New York. There's a square block of solid building above them now—they're locked up for life.

*There would be no practicable way to take out or replace these generators once the building was completed, so the decision on the kind of generators to install had to be based on dependability—absolute dependability. When it came to final selection, the Building Committee voted unanimously for Crocker-Wheeler generators.*

Besides their reputation for long life, there was another strong reason why C-W generators were specified: despite the 26 elevators that were to operate in the

building—despite the rapidly fluctuating, heavy power demand these elevators would put on the circuits—Crocker-Wheeler could guarantee the building lights would not flicker. Years ago, Crocker-Wheeler pioneered the d-c generator construction that first made non-flicker operation possible under such circumstances...just one of the many major advances in electrical design developed by Crocker-Wheeler during 56 years of specialization in engineered electrical manufacturing.

You can benefit from Crocker-Wheeler's specialized skill simply by calling or writing your nearest Hendy office whenever your plans include special or standard motors or generators. We will also be glad to send you information on other Hendy products which include Diesel engines, steam turbines, turbo-generators, reduction gears and hydraulic control equipment.

### DIVISIONS OF JOSHUA HENDY IRON WORKS

CROCKER-WHEELER DIVISION .. Electric Motors & Generators

JOSHUA HENDY DIVISION ... Steam Turbines, Diesels, Gears

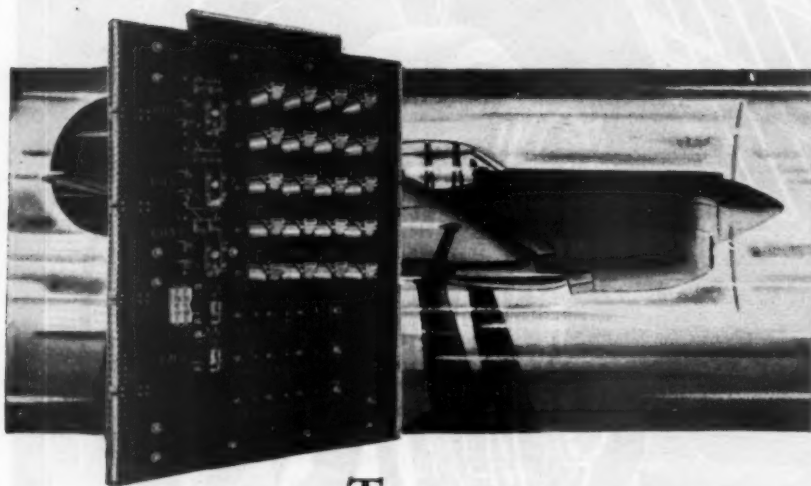
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# Aircraft Stresses in Giant Wind Tunnels Registered Through CLARE "Custom-Built" RELAYS



**T**wenty-nine Clare "Custom-Built" Type "AMS" Relays are used by Toledo Scale Company of Toledo, Ohio, on their control panel which registers the effects of wind pressure on aircraft in the giant wind tunnels which are an important part of aviation research.

Having used Clare "Custom-Built" Relays for a number of years as components of their sensitive automatic weighing machines, the Toledo Scale Company had no hesitancy in picking Clare Relays for this highly specialized aircraft testing equipment.

Designers of many new and unusual products such as this specify Clare "Custom-Built" Relays because only in Clare Relays do they find the flexibility of design and construction that will meet almost any relay requirement.

Clare "custom-building" gives a wide range of contact ratings; a choice of five different contact forms, or any combination thereof; either flat or hemispherical contacts of rare metals or special alloys. It gives you coil windings to match the circuit and application, incorporating special windings where needed. It provides the contact closure sequence and desired contact pressures to meet the requirements of its use.

Clare "custom-building" is a method of construction, not a descriptive term. And "custom-building" by Clare engineers always means precise designing and manufacture... the use of the finest materials available.

If your plans call for new designs for new products, or improvements on your present products, your engineers should know all about Clare "Custom-Built" Relays. Send for the Clare catalog and data book today. Address: C. P. Clare & Co., 4719 West Sunnyside Avenue, Chicago 30, Illinois. Sales engineers in all principal cities. Cable Address: CLARELAY.

## CLARE RELAYS

"CUSTOM-BUILT" Multiple Contact Relays for Electrical, Electronic and Industrial Use

of 3,200, and thousands of part time and volunteer regional workers, the Weather Bureau, in the U. S. Dept. of Commerce, has long aided agriculture, shippers of perishable goods, and more recently the air transport companies.

• **Aid to Business**—During the war its biggest client has been the military. But steadily growing are requests from business which are illustrated by the following samples:

**Johns-Manville** kept track of a hurricane in Texas and rushed carloads of roofing into areas where new roofs would be needed.

**Lipton Tea** used weather records to locate sites for new factories for dehydrated soups in low-humidity counties of New York.

**American Fisheries** studied data on the water temperature of the Humboldt current off Chile to plan new fishing ventures.

**Skol**, a lotion for sunburn, watches snowfall and advertises its product to skiers or others subject to snowburn.

**Cushman's Sons**, a New York bakery chain, telephones its suburban stores to truck a big part of their stocks to downtown stores on rainy days because wives won't brave the weather and they telephone their husbands to pick up the bread and cake in the city on the way home.

**Western Union** studies wind velocity to determine the number of wires they can string safely on a crossbar. The company also is interested in ice glazing which makes wires sag and break.

• **Can Anticipate Shutdowns**—Public utilities and factories which shut down week ends for repair jobs that require extra personnel find five-day weather forecasts indispensable. They save money by hiring men only when the weather permits the work to be done. On fine week ends the utilities know that home and apartment use of gas and electricity will be low since more people get outdoors. This low load permits shutdowns of equipment.

Mail-order houses in Kansas City, Chicago, and Baltimore are affected by bad weather in Texas. Texans kept indoors by rain dig out the catalogs and write up orders for goods. This flood of letters hits the mail-order desks about three days after the rain—and the desks, stock clerks, and shipping staffs are ready.

• **Forecasts for Army**—Military uses of weather information are varied. Forecasts are made for troop movements, and reports are made on tides, surf, river stages, and winds.

Penicillin, perishable in temperatures above 65F, is flown to New York from the West. If the weatherman says LaGuardia Field is sweltering, refrigerated trucks will be there to take the



## Outfitting another exploration into emptiness



DPI glassblower fashions parts for high-vacuum equipment. Torkel Korling photograph.

**HAVE YOU** explored the world of high-vacuum and its possibilities for your business?

Many a corporation has found that processing in high-vacuum is both useful and profitable. And many of these organizations turn to DPI for efficient, dependable high-vacuum equipment.

It may seem odd that DPI, known in the foods and pharmaceuticals fields as a leading supplier of vitamin A and vitamin E concentrates, is

also a leading supplier of high-vacuum equipment — pumps, gauges, oil, and the like—to industry.

But remember this: our vitamin concentrates are superior because they are distilled in high-vacuum. We use our own high-vacuum equipment, most of it originated and developed in our own laboratories. And we are our own severest critic.

We are eager to be of service to you.



### Distillation Products, Inc.

*Pioneering High-Vacuum Research*

755 Ridge Road West, Rochester 13, New York

*"Headquarters for Oil-Soluble-Vitamins  
and High Vacuum Equipment"*

penicillin off the planes. This sort of service will apply to shipments of perishables of all kinds after the war. A new smoke screen device which Standard Oil of New Jersey wanted to demonstrate to the War Dept. choked the valley at a demonstration, thanks to weathermen who knew the valley air currents best adapted for the show.

• **Business Checkup**—To find out how industries are using the Chicago weather office, Harry A. Downs, associate meteorologist, visited about 50 companies; he concluded that a pressing postwar need will be for "industrial operations forecast specialists."

Downs' Chicago survey showed that gas companies use weather forecasts to plan standby plants if a cold wave is coming. The Natural Gas Pipeline Co. decides when it can shut out pipes for repairs during warm spells. Commonwealth Edison depends on rainfall reports from hydroelectric areas to know how much current it will have to divert from Chicago to power-short clients in other communities.

• **Protecting Freight**—Railroads get reports to prevent delays and protect shipments. The State Street Council of some 150 merchants saves its advertising for fine weather days.

When war halted weather broadcasts until a year ago Great Lakes ore shippers got a special coded teletype service from Chicago to Cleveland. A wool buyer keeps reports of dust storms in certain areas and thus tends to avoid the expense of washing grit out of wool by making his purchases in areas that escape dust storms.

• **Channeled to Groups**—To meet increasing demands for service, the Weather Bureau is channeling information to as many big groups of users as possible.

The National District Heating Assn. (steam and heat users) serves a \$2,000,000 industry with information on degree-days, for example. The standardization studies for this service began as a WPA project in New York in 1941.

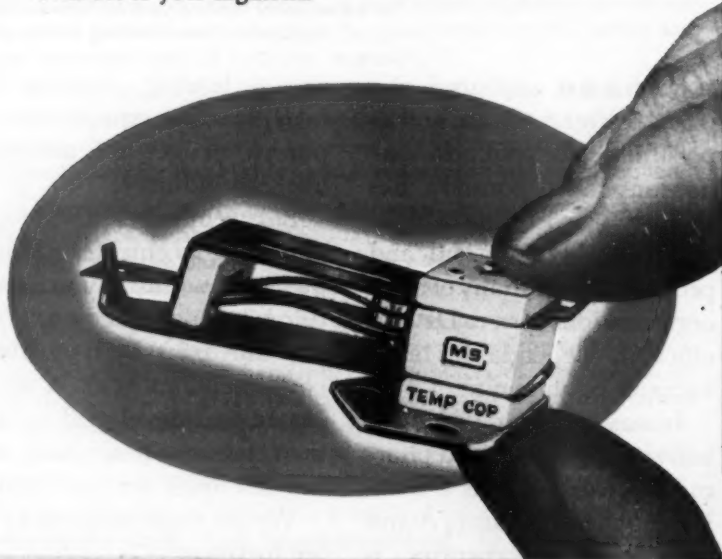
A new need will be flying condition reports for the 10,000 airstrips that the Public Roads Administration plans to construct along its postwar network of superhighways. The big city taxi fleet that resets carburetors for changes in weather is another prospect for channeled service.


• **Perishable Product**—Weather observation during the war has improved, but interpretation of the observations into forecasts still is a perishable product—good for 24 hours or even five days, but rapidly deteriorating thereafter.

Luckily for the Allies, weather comes from the West and moves east. Thus the U. S. can foresee Atlantic weather better than Germany can, and England

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This unique product may be your solution to a design which calls for the maintenance of temperature or current, or both, within certain pre-determined limits. Complete engineering data is available to your engineers.





**... ADD YOURS TO  
THIS CHECK LIST!**

<b>HOT WATER HEATERS</b>	✓
<input type="radio"/> <b>MILK PASTEURIZERS</b>	✓
<b>SAFETY ALARMS FOR FREEZING UNITS</b>	✓
<b>ELECTRIC COFFEE MAKERS</b>	✓
<b>ELECTRIC ALARMS</b>	✓
<b>ELECTRIC SAFETY DEVICES</b>	✓
<b>THERMAL RELAYS</b>	✓
<input type="radio"/> <b>CIRCULATING FANS</b>	✓
<b>INDUSTRIAL GLUE POTS</b>	✓
<input type="radio"/>	

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**FREEPORT, ILL. U.S.A.** Sales Offices in New York, Chicago, Cleveland, Los Angeles, Boston, Dallas, Portland (Ore)

The basic Micro Switch is a thumb-size, feather-light, plastic enclosed, precision, snap-action switch. Underwriters' listed and rated at 1200 V.A., at 125 to 460 volts a.c. Capacity on d.c. loads depends on characteristics. Accurate reproducibility of performance is maintained over millions of operations. Basic switches of different

characteristics are combined with various actuators and metal housings to meet a wide range of requirements. ... Your engineers should be thoroughly acquainted with Micro Switch possibilities. We will gladly send you as many handbook catalogs as you need for complete information on Micro Switch characteristics.

**FOR BETTER, SMALLER, POST-WAR  
PRODUCTS — USE THE  
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Post-war competition will demand better, smaller, more efficient products. The Micro Switch, because of its small size, precise, accurate long life and dependable snap-action, ideally meets these needs.



can know continental flying weather sooner than Berlin.  
**Too Expensive**—Radar will follow the helium-filled radiosonde balloon now in use at 65 stations better than the lens of a theodolite (for wind direction and velocity) because radar penetrates a cloud deck, but radar at present is considered too expensive for the Weather Bureau budget.

A radiosonde transmitter sends a stream of information on temperature, humidity, and barometric readings back to an automatic receiver. But static can drown it out, and alternate icing and melting send it bobbing up and down under a 15-mile ceiling. Big advantage of radiosonde is that the information is available at once. Unlike kites on strings, the balloons don't send down lightning to injure weathermen. The balloon, battery kit, and red parachute of a radiosonde weigh about 2 lb. and cost \$20.

There is also some prospect that rockets may be used after the war. Refugee Willie Ley, former vice-president of the German Rocket Society, is pushing development work in Atlanta, Ga., claims that rockets can take weather instruments twice as high as balloons.

• **Robot Observer**—Experiments are being made with a robot weather observer in Maryland, but it is for surface records only. Flying facilities have made weather forecasting three-dimensional. Chartered planes, therefore, would seem more useful than stationary robot instruments.

Planes are especially useful to watch hurricanes. During the 1944 hurricane which hit the Atlantic states, 51 Weather Bureau warnings were issued; only 17 were issued on the 1938 hurricane. The growing interest in weather information is shown by inquiries regarding storms and extreme conditions. New York City's telephone service answered 155,000 calls Sept. 14, 1944, whereas the fair-weather average is 20,000.

• **Future of Forecasting**—Postwar international forecasting and climatological studies based on data filed away by many governments are certain to increase. The Army, for instance, has had the Weather Bureau make maps of the isobars of daily weather records in the Northern Hemisphere for 404 years. Tabulating machines and punch cards made this possible. More than 50,000,000 cards were punched annually during the past three years.

Perhaps such compilations and analyses will lead to monthly, seasonal, and even cyclical forecasting, but the Weather Bureau isn't too optimistic. As any farmer knows, the almanacs put out by medicine makers still have some success. None of these almanac makers is among Weather Bureau customers.

## "Finish 'em by 5 o'clock? That's easy!"

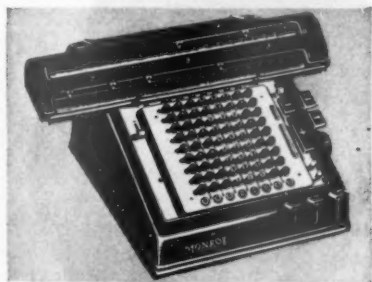


No task is too great for the men and women who use Monroes. Everything about a Monroe speeds work and eases the operator's job . . . its simplicity, its "Velvet Touch" and fast performance, its compact convenient size; and the figuring short cuts that become second nature to a Monroe operator.

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accounting; payroll calculations and records, statistics, analyses, estimates, reports, invoices, costs and statistics, inventory and accounting procedures. In thousands of offices, factories, banks, and stores Monroe Calculating Machines and Monroe Listing and Accounting Machines help keep this vital work up to the minute.

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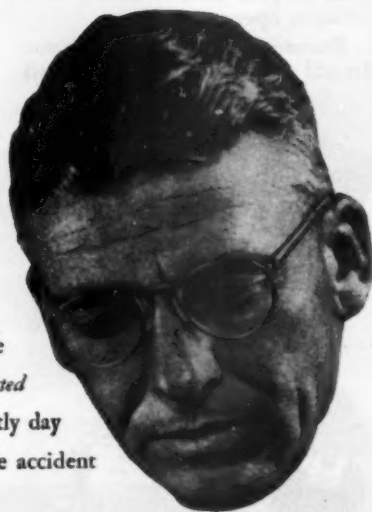
Will his eyes be  
on the job tomorrow?



YES—if he's wearing  
AO Safety Goggles

AO Safety Goggles provide protection against eye hazards... remove the danger of lost-time eye injuries. The man working *unprotected* takes the risk. And it's usually a costly day for him—and for you—when an eye accident injures his sight.

How many of your workers are taking such risks? An AO Safety Engineer can point them out by making an eye hazard survey of your plant. He'll also recommend the proper goggles for each type of job. Call in an AO man this week—and help keep your "production eyes" *producing*.



**American Optical**  
COMPANY  
SOUTHBRIDGE, MASSACHUSETTS

## Too Many Onions

Bumper crop clogs nation's warehouses, but the glut fails to bring retail prices down. Military purchases will be increased.

The biggest onion crop in history—47% above the 1933-1942 average—is glutting warehouses and lying exposed to the weather in fields. But retail prices haven't come down much in nongrowing areas because the Office of Price Administration allows dealers to figure markups on ceiling prices even if they don't pay top prices to the grower. • **No Support Prices**—Paradoxically, onion growers this year succeeded in getting OPA to raise ceilings about 30¢ per 100 lb., but onions are a fresh vegetable and hence are not given the protection of support prices, as are many other farm products.

Result of the bumper crop is that growers in Colorado and California are getting about half of ceiling prices. Retailers in those states are selling onions for roughly 4¢ a lb., while retailers in most other states are getting 7¢ a lb. • **Follows Shortage**—Last season there was a scarcity caused by a rainy spring and wet harvest season, plus requirements of the military and lend-lease for about 3,500,000 bags. Civilians paid OPA ceiling prices gladly, and black markets flourished.

Growers planted a lot of onions in 1944 hoping to profit from a hungry market. Western growers, who will probably produce half of this year's fall crop of 17,000,000 bags, planted an acreage 133% above the average. An increase of 20% by eastern growers was offset by a 20% decrease in the Midwest.

• **Cooperation Sought**—The surplus won't guarantee plenty of onions until Texas brings in the early crop in April, estimated at 4,333,000 bags. This is because 90% of the 9,324,000 bags grown in western states this summer are the Spanish sweet types which don't keep much longer than Feb. 1. Unless housewives and restaurants help warehouses by storing Spanish sweets and go easy on Michigan yellows (which keep until June), there may be a two-month gap in early spring when onions will be scarce again.

The military expects to take 5,000,000 bags, about 40% more than last year, and spoilage for lack of warehouse space may be great. The total onion crop is expected to be 22,720,000 bags (including 1,387,000 early summer varieties which already have been marketed).

# MARKETING

## Consumers' Voice

U.A.W. division battles to hold inflation line, but its long-range program is designed to fight economy of scarcity.

Working quietly during the past 20 months, the C.I.O. United Automobile Workers has set in motion a long-range consumer program intended to give payroll dollars extra purchasing power. • "Bargaining" Device—The drive is centered in the Consumers Division of the U.A.W., organized in January, 1943, in the belief that pay raises mean little if prices go up. Accordingly, the division has since been concentrating its activity in Washington, fighting—with some effectiveness—to hold the inflation line and to improve consumer conditions.

U.A.W. officials believe the consumers' program ties in neatly with their general objective of improving the worker's lot. Walter P. Reuther, U.A.W. vice-president and director of the division, sees the movement as another means of bargaining for the worker. This viewpoint is seconded by Donald E. Montgomery, who administers the division as its consumer counsel, and who is the front-line battler in the cause.

• Another Organization?—Montgomery came to U.A.W. last year (BW—Feb. 20'43, p98) following his resignation as Dept. of Agriculture consumer counsel, a job in which he incurred enmities for



As counsel for the United Auto Workers' Consumers Division, Donald E. Montgomery heads a drive for increased production and lowered prices.



## "Softest job in this man's Army"

"Engineering officer, my eye... Why, that dressed-up dumbjohn hasn't had his hands dirty in a month. All he needs to do with those Jacobs engines is to keep their serial numbers. A smart guy in his spot would let the sergeant sign all the reports and just show up for inspection!"

"Tch tch! Keeping an operating quota of these coffee grinders I have on the line would learn him. Want to trade jobs, feather merchant?"

To his brother engineering officers with the beefs, the occupant of the office says "You mail order mechanics fairly snow me!" and gives a snoot salute.

No AAF Engineering Officer has a soft job... but the Jacobs engine has helped to make his life easier.

At his own discretion, he can now let the Jacobs engine run up to 1,200 flight hours between major overhauls—time equivalent to 180,000 miles! The period has been gradually increased from 350 hours since the start of the war.

Once overhauled, the Jacobs is good for six months service, despite the fact

that these engines, under hard student handling, must make more take-offs, spend more time at full power, stand more wear and tear than engines in almost any other type of service.

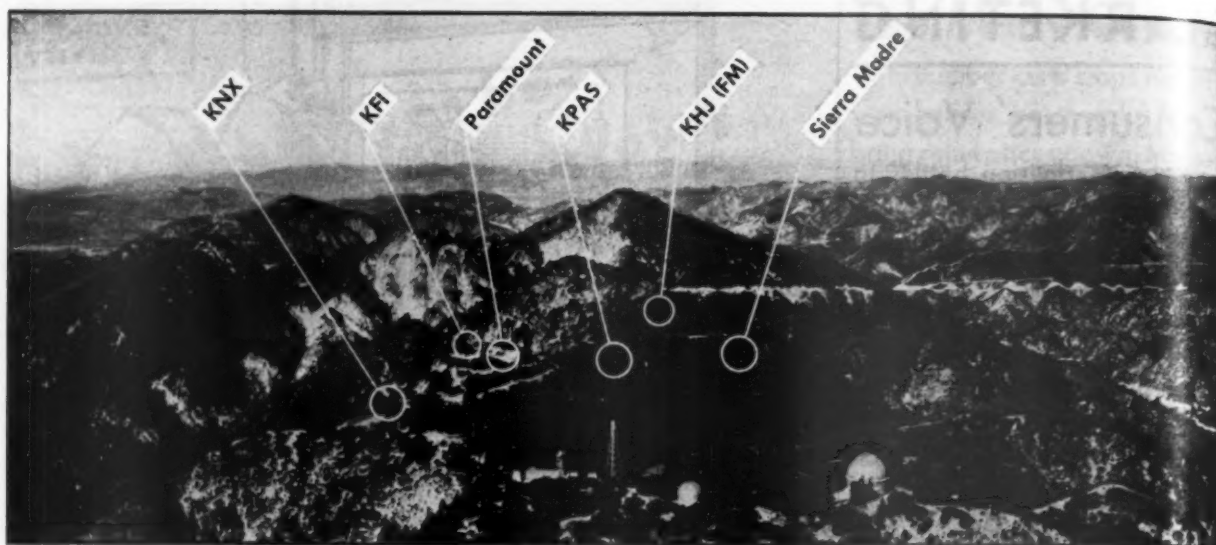
Jacobs has meant less work for ground crews... smaller inventories for supply officers... maximum operational air time to officers in command... greater security and safety to instructors and cadets, because Jacobs engines keep running... more peace of mind to parents whose sons are safer... and a break to the taxpayers due to lower maintenance costs!

In peacetime, when costs will count as well as performance...

Jacobs engines will give as good an account of themselves... both in aviation and in other fields. Because it means minimum maintenance, maximum dependability, lower costs—Jacobs is a good name to remember... Jacobs Aircraft Engine Co., Pottstown, Pennsylvania.



# JACOBS • Pottstown, Pa.



## HIGH FREQUENCY

Looming large on the postwar broadcasting horizon are the San Gabriel peaks where famous Mt. Wilson observatory is located—just outside the Los Angeles city limits. Last week, for instance, KFI, NBC's local outlet, paid \$32,500 for a 160-acre perch for its television and FM transmitters—the ninth such location which broadcasters have in the area, six of which

are grouped (above) along a ridge behind the observatory. Great height, an important factor in such transmission, is the principal reason for the boom in this mile-high real estate. The sites command a potential listening audience of 4,000,000. On Mt. Wilson power lines and a good highway lead right to the summit, and ready are future sites of KNX, Los Angeles' CBS station; KFI (old location); Paramount Pictures; KPAS,

Pasadena; and KHJ, Don Lee Broadcasting System. A sixth spot has been spoken for by Pierre's, a Sierra Madre restaurant with broadcasting ambitions. KFI leases the Mt. Wilson site from U.S. Forest Service; its new one (not shown) is a mile south. The Los Angeles Times and KGER, Long Beach, also have sites farther down the range. The Blue Network is shopping around for a location, and NBC is also looking for still another one.

his insistence on grade labeling and other consumer reforms in food distribution.

Logically, the end result of the U.A.W. interest in consumers would be an active organization along union lines, with officers, small dues, and other trappings of labor organization. This may even be under consideration, rather than in the star-gazing category. But translation of the plans to action may be some distance ahead.

• **Combats Inflation**—Right now the division is in the midst of attempts to nullify inflationary tendencies which are expected to grow out of relaxation of controls at the end of the European war.

Should an over-large number of government controls be eliminated on Germany's fall, Montgomery feels, there would immediately be producer competition (for raw materials) and consumer competition (for finished goods) which would drive prices up to a new level which would likely be maintained even after industry later reached a stride fast enough to meet all demands.

• **High Volume Urged**—The battle to retain a working network of controls to hold prices down may be a losing

one. Montgomery admits that. But he feels that if the European war continues past the election, the desires of any administration in power to maintain better consumer conditions could be more readily achieved.

So goes the philosophy of the Washington side of the operation. Beyond that, the affirmed over-all policy of the Consumers Division is to further the cause of high production and consequent lowered prices, against the alternate choice of lessened output at higher prices. Higher volume is seen as the means of maintaining employment and purchasing power.

• **Foe of Scarcity Economy**—As seen by Reuther, the program is in one sense an onslaught against any "economy of scarcity" ideas, and against monopolies which fatten in such an economy. Let the enlarged productive capacity of post-war America produce more goods, Reuther urges, and then more wage earners will have more money and will increase their buying—not only because of their fuller pocketbooks, as today, but also because more goods will then be available.

So, some day U.A.W. bargaining committees may go to managements with

grievances on prices and, of course, profits on the goods made in the plant. Obviously such demands will create a furore as a completely unprecedented incursion into managerial prerogatives. But if the U.A.W. Consumers Division continues in existence, such grievances will some day appear, and conceivably may grow to the point of being backed by strike threats.

• **Cooperatives Advocated**—But those days admittedly are a long way off. Meanwhile, the division is occupying itself with more pressing matters, functioning at the Capitol as a spokesman for consumer program objectives and attempting, without too much success as yet, to start up cooperatives among U.A.W. members.

Publication of the Capitol Conveyor, a weekly newsletter, was begun recently by the Consumers Division and the U.A.W. War Production Division. The publication is distributed to union locals and other interested outlets. This publication, like most of the U.A.W. consumer activity, is largely the reflection of Montgomery's own zeal-filled thinking and actions.

• **Victory and Defeat**—Most of the Washington work is less tangible, but





# FIGURE FACTORY

In the forging of figures which go into reports for the guidance of top management, there's no accounting instrument to equal the Alphabetical Tabulator.

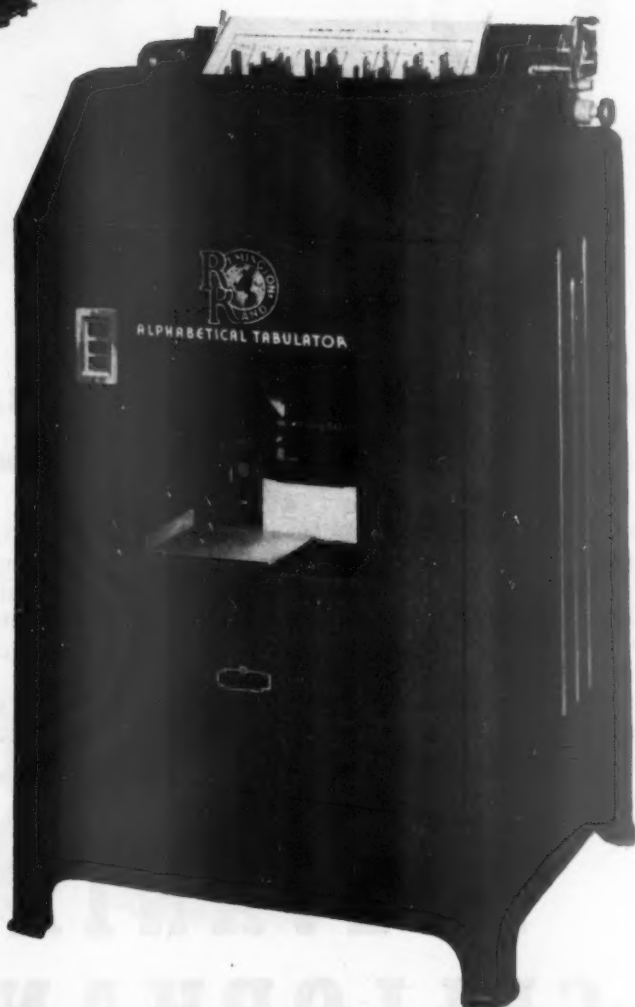
Mass production? There's no other way to get a hundred lines of accounting information every minute, hour after hour—each line with as many as a hundred figures on it.

Understandable reports? There's no other way to get English wherever you want it—words that need no de-coding—words *anywhere* you want them on the report.

Versatile output? There's no simpler way to get a wide number of *different* management reports and accounting records, automatically, from *one* machine.

This unequalled "figure factory" serves top executives by the thousand, in business, in the Army and Navy, in government. It can serve you, too, through its proven ability to save manpower—by helping smooth the flow of materials, by speeding payroll production, by keeping inventories tuned to current needs.

Get the whole story, won't you? Just call the nearest Remington Rand office, or write us at New York 10, New York.



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## FIRE WARDEN AND SPACE SAVER! ... a dual job for Mr. Cellophane

THIS IS AN ELECTRIC CABLE. Inside are wires wrapped with Sylvania cellophane. This cellophane is both flame-retardant and space saving. The reason it conserves space is because it is extremely thin. And on this vital job, Sylvania cellophane performs three other essential duties: 1. Separates the component parts of the cable. 2. Acts as a coding device—different colored cellophane indicating different strands of the cable. 3. Aids in insulation.

The versatility of Sylvania cellophane makes it indispensable for war. However, the developments Sylvania is making today will profit you well in the postwar tomorrow. They will result in more uses for cellophane ... and a better cellophane.

# SYLVANIA CELLOPHANE

Made only by **SYLVANIA INDUSTRIAL** Corporation

Manufacturers of cellophane and other  
cellulose products since 1929



Reg. Trade Mark

General Sales Office: 122 E. 42nd St., New York 17, N.Y. ★ Works and Principal Office: Fredericksburg, Va.

a few examples of direct action can be cited, even measured. When efforts were being made last year by the petroleum industry to raise oil prices 3¢ a bbl., the division crusaded with other groups and helped defeat the move; high-cost stripper wells were later subsidized but the basic oil price continued. Subsidies for necessary high-cost operations are basic in the division's attitude on price maintenance today.

Less successful, however, was Montgomery's fight for grade labeling (BW-Jan. 2 '43, p. 7), which began a decade ago when he first joined the Dept. of Agriculture in the role of consumers' counsel. This was perhaps his most important battle up to now, but the canners carried the day. Despite this, Washington realizes that Montgomery and his big union comprise probably the most powerful consumer's voice at the Capital, which is aptly indicated by the dislike industry groups have for him and the respect with which he is heard in major government offices.

• **Want More Textiles**—More recently, the Consumers Division vigorously joined the fight to stop the granting of permission to grocers to set up "floating ceilings" on a number of products if processor prices were increased.

Efforts are also being made to enlarge availability of low-priced merchandise, particularly textiles. The need of apportionment of civilian goods by price classes as well as over-all quantities is being stressed to legislators and administrators.

• **Consumer Co-ops**—In the field the division is trying to organize consumer cooperatives where population concentration of union members makes the idea feasible. One such co-op functions at Detroit's Herman Gardens housing project, where union members of many locals—auto workers and others—live together. It is a modest success.

A few others are operative, but on equally small scale. Obviously there is less enthusiasm than the Consumers Division would like to see. Perhaps, it is theorized, high war incomes have something to do with that attitude, and plans for co-op development and consumer education are being laid over the long term.

## POSTWAR FAIR NEXT MAY

Down-to-earth exhibits of what consumers can expect U. S. industry to produce for them after the war will be displayed by R. H. Macy & Co. next May, in a month-long Postwar Fair in its New York retail store.

Besides postwar versions of consumer goods likely to be sold at Macy's the fair will include latest airplanes, new automobiles (if any are available for dis-



Why do they make  
ashcans out of STEEL?

Because you can't beat  
STEEL for toughness!



Steel is tough, all right. War has proved it. And it's tougher than ever now. Stronger. Better. The 174 laboratories of United States Steel have helped to make it so. Someday you'll get the benefit of the new, tougher steels. In garbage cans and garden tools. Fencing and furnaces. Countless other products. All marked with the U-S-S Label. Remember to look for it. It means *quality* in steel.

## UNITED STATES STEEL

• AMERICAN BRIDGE COMPANY • AMERICAN STEEL & WIRE COMPANY •  
• CARNEGIE-ILLINOIS STEEL CORPORATION • COLUMBIA STEEL COMPANY  
• CYCLONE FENCE DIVISION • FEDERAL SHIPBUILDING & DRY DOCK  
COMPANY • NATIONAL TUBE COMPANY • OIL WELL SUPPLY COMPANY •  
• TENNESSEE COAL, IRON & RAILROAD COMPANY • • TUBULAR ALLOY STEEL  
CORPORATION • UNITED STATES STEEL EXPORT COMPANY • UNITED STATES  
STEEL PRODUCTS COMPANY • UNITED STATES STEEL SUPPLY COMPANY  
• UNIVERSAL ATLAS CEMENT COMPANY • VIRGINIA BRIDGE COMPANY



# Ready Now! 'BUDGIT'

CHAIN BLOCKS  
WITH LINK CHAIN

but...

## YOU CAN'T BUY THEM TILL VICTORY'S WON!

The sixth of the famous Manning, Maxwell & Moore "firsts" to create a new industry! 'Budgit' Chain Blocks with Link Chain are a finished product—NOW! Completely engineered and proved, they're ready for mass production when Victory gives us the "go-ahead"!

'Budgit' Chain Blocks embody the first entirely new idea in hand-operated hoists in more than 50 years. Once again we have pioneered in developing a new product, which like our other "firsts"—the three-motor electric traveling crane, 'Budgit' Hoists, 'Budgit' Crane Assemblies, 'Budgit' Chain Blocks with Roller Chain, and 'Budgit' Bridge Drives—established a new industry or expanded an old one.

Real portability, totally enclosed construction and anti-friction bearings throughout—made available for the first time in the original 'Budgit' Chain Blocks—are features of the new 'Budgit' Chain Block with Link Chain. And like the 'Budgit' Chain Block with Roller Chain, they possess high operating efficiency, also lightness of weight. They are particularly suited to load lifting jobs where a link-type load chain is desirable.

We've several new products awaiting production—other "firsts" to aid in making work lighter, easier.



'BUDGIT'  
Chain Blocks

MANNING, MAXWELL & MOORE, INC.  
MUSKOGON, MICHIGAN

play by them), boats, and new devices such as Telefax (facsimile telegrams), and sound recording on film and on steel cable.

Exhibition space is not for sale; manufacturers are invited to participate, but Macy's reserves the right to choose exhibits most likely to interest the fair's expected 1,000,000 visitors.

## Food Chains Plan

Better warehousing and merchandising are seen as ways to regain volume. Promotion of self-service is certain.

Most of the sessions of the eleventh annual meeting of National Assn. of Food Chains were held behind closed doors in Chicago last week so that members would be encouraged to speak out. Their problem is how to change wartime shopping habits so that food chains can regain the lead in dollar volume of business that they held over independents until 18 months ago.

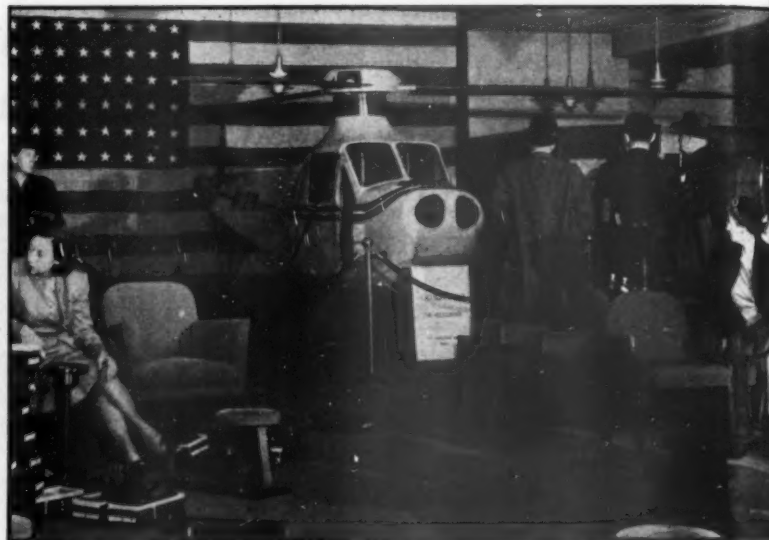
• Chain Ratio Lags—Charts displayed by A. C. Nielsen Co., market research,

reminded rueful members that grocery store sales have increased since 1940, but chain sales are up only 58% compared to the independent 82% climb.

How chain-store merchandisers expected to regain their prewar position is hinted by the interest in the equipment exhibits. These stressed: (1) improved warehousing equipment for handling goods cheaper and faster; (2) refrigerated cases and other display units from which customers can serve themselves easily with meats, produce, and frozen foods.

• To Promote Sales—Self-service departments, originating on the Pacific Coast, are still at the pioneering stage but food distributors believe that they have a postwar future. Meats in transparent wrappers, labeled with price, weight, and description, are displayed in refrigerated cases.

Such self-service requires better packaging, and attendants must tidy up displays that shoppers muss up. But proponents of the idea say that the store gets a better day's work from its buyers who cut and wrap meat in the cooler all day instead of waiting customers. Because the buyer gets what he wants without waiting, prod-



## WITH DOUBLE PURPOSE

In the shoe department of Bonwit Teller's New York store, a helicopter exhibit fulfills its purpose—attracting attention. Taking the tack that intimate public inspection of postwar products now is vital to future sales, Promotional Production, a Manhattan agency, is coupling its displays with department store merchandising promotion. Merchants, with stocks

low and sales booming, find the campaign a handy medium on which to hang institutional advertising copy. Aeronautical Products, Inc., Detroit is getting its future product before a buying audience. Used by Boston Filene store for demonstrating package delivery (BW—Sep. 9'44, p. 32), the two-place helicopter has 15-ft. rotor blades, a 130-hp. engine, and is slated to sell for \$2,500—when output for mass production becomes possible.

# King Cotton

## GETS TOUGH



Long before the guns spoke at Saipan and Guam, Gulf South cotton farmers first had to plod down their rows and plant the seed of mighty war explosives.

This basic crop from the Gulf South Cradle of Victory serves the Army alone in something like 11,000 ways—from guncotton to handkerchiefs.

When peace comes, cotton and its derivatives will offer the chemist and inventor still newer horizons in this resource-rich Land of Industrial Opportunity.



### THE Gulf South

ITS RESOURCES, ITS MANPOWER  
ITS PRODUCTION ARE ALL  
DEDICATED TO VICTORY

UNITED GAS PIPE LINE COMPANY: A Natural Gas transmission company dedicated to serve wartime fuel requirements throughout the Gulf South. FOR TEXAS—Mail received at Beaumont, Dallas, Fort Worth, Houston, Longview, San Antonio and Wichita Falls. FOR LOUISIANA—Mail received at Baton Rouge, Lake Charles, Monroe, New Orleans and Shreveport. FOR MISSISSIPPI, ALABAMA and FLORIDA—Mail received at Jackson, Miss.



800 PINTS—enough milk to supply a battalion daily—nestle into two 50-pound drums, thanks to the miracle of dehydration. Packed as a flour-fine powder...proof against spoilage...milk makes the long haul to our overseas forces, converts into a smooth, frothy fluid that fills the bill tastily for fresh whole milk. It's fully as nourishing, too. Shipping in one-fourth the space...weighing one-tenth as much as fluid milk—it's an ideal food for our distant forces and allies. Step into a dehydrating plant and see how "Air at Work" transforms fluid milk into convenient powder...

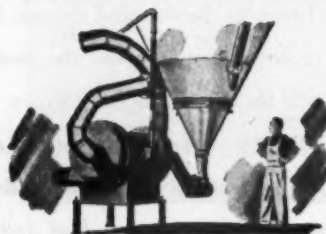


1. CANS OF WHOLE MILK—trucked in by dairymen—are hustled into the plant...spilled into a 1000-gallon receiving vat. Heated next in a pasteurizer, the milk is held at 160°F. for a half hour—cooled—and then shot to the top of the drying chamber where the magic of dehydration will take place.

2. INSIDE THIS GIANT STEEL DRYER, "air at work" takes over. Milk sprayed in under high pressure meets a blast of heated air circulated by a Sturtevant system. High speed evaporation powders the milk—simultaneously cooling it to prevent spoilage. Moisture is exhausted with the air, and the snowy milk particles settle to the bottom.



3. MOVING DRIED MILK away from the bottom is another job for "air at work". Sturtevant Conveying Fans carry the clean, sweet powder automatically to a collector, where it is sifted into 50-pound drums for shipment. Powder from 40,000 or more gallons of whole milk is often handled daily by one of these dryers and its team of Sturtevant Air Handling Equipment.



#### OUTCLASSING COMPETITION

will be easier for many post-war plants when *engineered air* is on the job—improving the quality of products, and stepping up operating efficiency. Have Sturtevant sit in on your post-war planning committee—NOW—to help you pile up a lead over peace-time competitors by *Putting Air to Work*...to air condition, heat, dry, ventilate, control dust and fumes or burn fuel more economically.

**Sturtevant**  
Puts Air to Work

B. F. STURTEVANT COMPANY  
Hyde Park , Boston 36, Mass.

and frozen-food sales, as well as meat sales, are expected to increase.

• **Labor Troubles**—More compelling reasons than consideration for the customer prompt store men to promote self-service.

Food chains have been plagued by an annual labor turnover of 500%, have been forced to hire 90% women employees in their stores instead of the prewar 10%, and to have 55% women in all jobs, including warehouses. Many an independent has escaped this problem.

Mass merchandisers expect lower food prices after the European war. Instead of price ceilings at that time, the big distributors foresee a major task in promoting sale of foods from surplus crops which may multiply because of the government's price support pledge to farmers for two years after the war ends.

• **Expansion Planned**—Wartime problems have forced chains to close some retail outlets. National Tea Co. had 889 stores at the end of 1943, only 846 on Oct. 7. Chain executives plan to add outlets, principally stores of moderate size as conveniently situated as the neighborhood independents.

#### FOR QUICK ITINERARIES

To speed up service, United Air Lines is supplying its traffic and reservations personnel with a single loose-leaf reference guide listing local transportation facilities, hotels, and other items of interest to travelers for each city the line serves.

The guide coordinates information from all of the many timetables and reference books which formerly had to be kept on hand to prepare itineraries.

Listed are competing schedules as well as United's, fares, elapsed time, comparison with first-class railroad fares and elapsed time, information on meal service aloft, excess baggage charges, federal tax rates, hotels and rates, local transportation to and from the airport, and rail and bus schedules to nearby cities and military camps.

#### MAGAZINE FOR AIRWAYS

How to enjoy the time you save by air travel is what Airways, new monthly magazine to be published in January by Henry Publishing Co., proposes to tell plane passengers.

Air travelers will receive the 28-page magazine free when they begin the last lap of their journey; east-bound passengers, for example, will receive the New York edition after their plane leaves Cleveland. This and three other editions (Chicago, San Francisco, and Southern California) will be launched



simultaneously, with a total initial printing of 125,000. But J. Fred Henry, who also publishes Skyways magazine and has high enthusiasm for postwar air travel, hopes eventually to distribute about 25 editions, covering goings-on in as many different U. S. cities, and envisions a circulation of 1,000,000. Twelve of the country's 17 major airlines so far have arranged to distribute Airways to their passengers.

Editor Larry Nixon should know what to tell travelers to see and do; he once published an aviation magazine, and has written travel books. Only feature common to all editions of Airways will be national advertising—expected to fill half the space sold. The remainder will be offered to local stores, night clubs, hotels, and other advertisers interested in reaching what Henry calls "the top-flight travel market." Space rates are \$8 per thousand—currently, \$1,000 per black and white page, \$1,500 per four-color page.

## CATALOGS ARE LARGER

Mail-order houses dropped their colorful Christmas flyers into the mail last week with the fervent hope that metal toys and other best-seller merchandise now ruled out by wartime restrictions may be back on next year's Christmas tree (BW—Oct. 7 '44, p. 34). A good deal of the gift merchandise is ersatz, but this year's catalogs generally are larger than last year's. Soft lines predominate, with apparel sections occupying about one-third of the pages.

Montgomery Ward continues its trend toward upper-level trade by offering bracelets priced up to \$295, including tax. Sears, Roebuck tops this with diamond rings at \$426.95, including tax.

Sears obtained one of its more promising gift items from surplus Army stocks, a mesh tent at \$1.89, "less than one-half the original cost to the U. S. government" because Army specifications changed. A full page illustrates how the tent can be used for camping, for sun bathing, or for airing the baby.

Off the market for months, stainless steel cutlery, one of the earliest industrial casualties of the war, is again listed. But Spiegel's offering of "the perfect gift," an electric iron, misfired. The full page devoted to the iron is in the catalog, but a big X was superimposed as the book went to press.

Sears at the last minute withdrew three of its items, made of metal and wood, by overprinting the flyer's type with a boldface "Sorry, not available." Recent shortages in merchandise prompted Spiegel to devote one page to listing items that have been sold out since the full-size fall and winter catalog was mailed last summer.



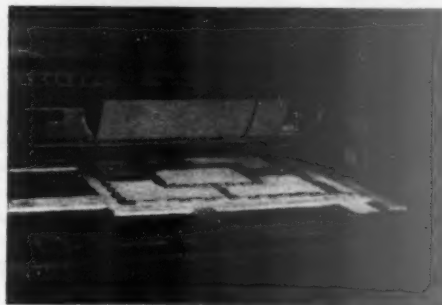
Many of the targets used in teaching service men how to shoot are cardboard cut-outs, which are die-cut on cylinder presses. The die is made of steel rule which cuts against a hardened, tempered and ground steel sheet known as cylinder jacket or tympan. These steel jackets are made in various sizes up to 56" x 80" in thicknesses from .062 to .135 of an inch. And the sheets must be curved to fit the cylinder without producing high or low spots on the jacket.

To make cylinder jackets that meet these strict requirements demands a rare knowledge of steel, a high degree of skill and experience and some pretty smart engineering. To the best of our knowledge, no one except Disston makes these hardened, tempered and ground cylinder jackets.

Chances are you have no use for cylinder jackets. But here's the point: you can use the Disston skill with steel and the

Disston engineering experience, which make it possible for Disston to do the most difficult jobs. These assets are yours in our standard tools... in Disston circular and band saws... in our files and hack saw blades... in dozens of industrial tools for cutting wood, metals and other materials.

How may we help YOU? Write to Henry Disston & Sons, Inc., 1028 Tacony, Philadelphia 35, Pa., U. S. A.



Above illustration shows how Disston steel cylinder jacket, or tympan, is used on cylinder type of printing press. The die, made of Disston steel rule, is locked in position on bed of press. Cardboard to be cut is fed into press just as in printing. As the cylinder revolves, cardboard is die-cut when it passes over the cutting die—the steel rule being forced into and through the cardboard against the steel jacket.





I'm a germ known as Phyllis, a  
wily Bacillus  
From business, I'm seldom retarded  
Where others drink too,  
I can pass on to you,  
But when a cup's made of paper,  
I'm discarded!

AJAX ▶  
Paper Cups



AERO  
Paper Cups

COLUMBIAN ▶  
Paper Cups



PEERLESS  
Paper Cups

USE PAPER CUPS

LOGAN DRINKING CUP COMPANY  
68 Prescott Street, Worcester 5, Mass.

PACIFIC COAST ENVELOPE COMPANY  
416 Second Street, San Francisco 7, Calif.



Divisions of  
**UNITED STATES  
ENVELOPE CO.**

13 Plants from Coast to Coast

# FINANCE (THE MARKETS—PAGE 114)

## Hughes' TWA

**Meteoric Texan wins CAB  
O.K. for already established  
union of airline and the Hughes  
Tool Co. of Houston.**

In plodding phraseology, the nation's financial editors duly recorded last week that the Civil Aeronautics Board had approved acquisition by the Hughes Tool Co., Houston, Tex., of control of Transcontinental & Western Air, Inc.

The Hughes Tool Co. is owned by Howard Robard Hughes. And announcement that Hughes has taken over one of the nation's principal air transportation systems indicates that this incredible young man has committed more of his millions to flying, the passion that has governed his eventful life.

The Dept. of Justice, which last January threatened to intervene in the deal, merely filed a statement of its position, urging CAB to be cautious in the nature and scope of its approval in view of the strings which have been placed upon the sale of the giant Lockheed Constellation planes (which Hughes developed) for use in domestic air service.

• **Half Eagle**—The CAB move merely blessed a union that was already in effect. Practical control of TWA by Hughes existed in 1940 with 42.1% stock ownership. At the time of the application to CAB Hughes had more than \$5,500,000 of TWA stock. CAB reported that the only person holding office in both companies was TWA's president, Jack Frye, who is employed in an advisory capacity by Hughes Tool.

Frye is a business and social luminary, having married into the Vanderbilt clan. But none of Hughes' associates can hope to duplicate the fantastic feats of this rich young man who made good. Howard Hughes is a manufacturer, a movie magnate, and one of the world's best flyers. He is half financier and half eagle.

• **Ventures Pay**—The fact that Hughes was born to a fortune that allowed him to indulge expensive whims led Hollywood to classify him as a "screwball." But it admits that his bizarre ventures, whether in the movies or in aviation, have a way of paying out.

Thus he has been working on several fighters for the Army. None of them has gone into production but Hughes reportedly has collected from the Army

for all his costs. The West Coast is wondering whether his luck will hold with the six-engine supership now in the works.

• **On His Own**—Henry J. Kaiser and Hughes teamed up in 1943 to build this, the world's biggest flying boat. Regular aviation companies resented Kaiser's "intrusion" and later Kaiser stepped out of active management leaving Hughes on his own. Contracts for three ships were originally awarded, but a revision resulted in a contract for Hughes to deliver one plane at a guaranteed price. Costs have soared over the guarantee and Hughes stands to lose as much as \$2,000,000 on the experiment when the plane, originally scheduled for completion this fall, is delivered next spring or summer.

Last summer TWA applied to the government for postwar worldwide routes. This would strengthen the company's present position as one of the four leading domestic lines with vital transcontinental routes. Recently (BW—Sep. 16 '44, p. 20) Douglas signed up many air transport companies for postwar planes, but Hughes is said to have committed TWA to a \$20,000,000 order for giant Lockheed Constellations—the ship that crossed the country in 6 hr. 58 min. last spring (BW—Apr. 22 '44, p. 16) and that is designed to make



CAB approval of acquisition of Transcontinental & Western Airlines by Hughes Tool Co. indicates that Howard Hughes has committed more of his millions to his hobby—flying.

# With a TR on his shoulder

... AND THE KNOW-HOW UNDER HIS HAT

You'll find him in every corner of the world where American weapons of war are in action ...

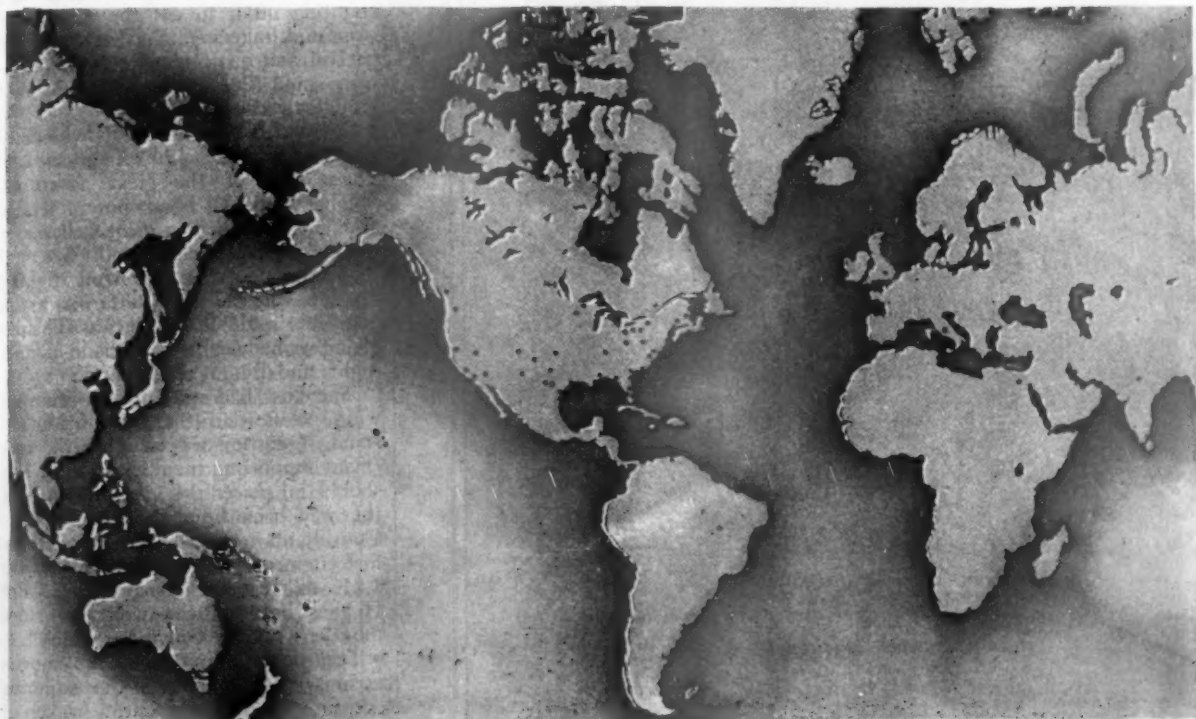
Wherever American precision instruments are guiding planes and projectiles and subs toward their targets, and ships toward their destinations.

He's in uniform, but he's a civilian. And his shoulder patch reads "Tech Rep." which stands for *Technical Representative*.

TR's not only help to see that our complex weapons perform reliably

under combat conditions—they help our soldiers, airmen, sailors, and seamen to understand the new devices which are constantly reaching the fighting fronts ... new planes ... improved gun sights ... intricate flight instruments ... ship navigating instruments.

And, in the course of his duties, the TR sometimes stops hot lead. Occasionally he becomes a prisoner of war. For his duties often mean sweating it out in a foxhole, or riding in a bomber on an actual mission.



## Wherever our Armed Forces go—there's a Sperry TR

The Sperry TR's, and their associate Field Engineers in this country, number nearly 600. Most of them are graduate engineers. They receive highly specialized schooling, and then put in months getting experience here at home.

For, once on their own in some remote spot, they must be able to keep the gyros spinning in bombers, fighters, and transport planes ... to repair a shot-up computing sight ... to adjust a revolving gun turret ... to overhaul a ship's Gyro-Compass ... to repair a damaged

hydraulic ammunition hoist.

American Generals and Admirals have said fine things about TR's. One of them, describing Sperry TR's as "indispensable," recently said that not only have they trained thousands of Servicemen in the proper maintenance of equipment made by Sperry, but, "through observation of combat performance, have been instrumental in indicating improved methods of manufacture and maintenance." Many TR's, he added, have performed this service at great personal risk.

**SPERRY**  
CORPORATION  
30 Rockefeller Plaza, New York 20

Through the following Divisions, our TR's help to see that Sperry precision instruments and controls serve the Armed Forces on land, at sea, and in the air ...

FORD INSTRUMENT CO., INC.  
SPERRY GYROSCOPE CO., INC. • VICKERS INC.  
Waterbury Tool Division, VICKERS INC.



*This announcement is not an offer to sell or a solicitation of  
an offer to buy these securities. The offering  
is made only by the Prospectus.*

# Commonwealth Edison Company

**\$180,000,000**

(of which \$155,000,000 are to be publicly offered)

**First Mortgage 3% Bonds, Series L**

Dated August 1, 1944

Due February 1, 1977

*Price 104¼% and accrued interest*

*The Prospectus may be obtained in any state in which this  
announcement is circulated from only such of the  
undersigned and other dealers as may law-  
fully offer these securities in such state.*

HALSEY, STUART & CO. INC.

HARRIMAN RIPLEY & CO. THE FIRST BOSTON CORPORATION GLORE, FORGAN & CO.  
(INCORPORATED)

HARRIS, HALL & COMPANY LEE HIGGINSON CORPORATION BLYTH & CO., INC.  
(INCORPORATED)

GOLDMAN, SACHS & CO. KIDDER, PEABODY & CO. LEHMAN BROTHERS

MELLON SECURITIES CORPORATION

F. S. MOSELEY & CO.

SMITH, BARNEY & CO. A. G. BECKER & CO. CENTRAL REPUBLIC COMPANY  
(INCORPORATED)

ALEX. BROWN & SONS CLARK, DODGE & CO. HORNBLOWER & WEEKS

STONE & WEBSTER AND BLODGET  
(INCORPORATED)

UNION SECURITIES CORPORATION

October 18, 1944

any point in the world less than a two-day flight from the U. S.

● **Interrupted Flight**—Hughes prepared designs for the Constellation in his experimental laboratories at the Hughes Aircraft Co., Englewood, Calif. Earth-girdling flight has gripped his imagination since long before 1938 when he flew a Lockheed 14 around the world in the record time of 91 hours, 14 minutes, and 28 seconds, making only six stops.

The war interrupted plans for accomplishing Hughes' supreme dream—non-stop flight around the world. He had bought a Boeing Stratoliner which he was converting into what was essentially a huge flying gasoline tank. Maybe it wouldn't have been able to achieve the dream of one-hop circumlocation at high altitudes, but Hughes was at least counting on it to cut the number of stops and hours of flight. Space for the cockpit and quarters where crew members could sleep when off duty was grudgingly conceded.

● **Day and Night**—Engineers who serve Hughes cheerfully endure his erratic habits as part of the great adventure. Hughes works all hours but preferably at night, and he is a great believer in the long distance telephone. Thus, during experiments on an Army fighter, Hughes called from California to an engineer in the East. It was Thanksgiving night and the calls came at midnight, and 2 a.m. and 4 a.m.

The boss had run into an item on wing specifications that he didn't understand. Question was whether the spar (main supporting member of the wing) should be placed 14.5% or 15.6% of the way back from the leading edge. Consultants generally backed up the first engineer's weary assurance that the 1.1% didn't make any difference. But Hughes held up the work for three months while he convinced himself.

● **Technicolor Pioneer**—In the movies as in aviation Hughes is the exploring skeptic. He was a pioneer backer of technicolor which, like his other cinema ventures, made money as well as history. Hollywood's wise guys predicted deficit and disaster when Hughes, then barely 21, put \$4,000,000 into Hell's Angels. The film made \$8,000,000 and its gripping reality created a new type of picture.

Hughes picked the late Jean Harlow for the Hell's Angels lead and started her toward fame. He also picked Paul Muni for the lead of Scarface, a picture which set a style in gangster films which still persists. Hughes' latest epic is The Outlaw, based on the life of Billy the Kid.

● **Judge of Contours**—Cost of this picture, \$2,500,000, staggered even those who were hardened to Hughes' imperial

endings. He shot 450,000 ft. of film to get 10,200. Russell Birdwell, the publicity man, was hired for four weeks at \$1,500 a week, has now been on the job at the same rate for over four years. The picture opened in San Francisco February, last year. It was panned unmercifully by the critics—and was a smash box office success, bringing in \$66,000 for a ten weeks' run. Hughes hasn't released it anywhere else.

For the lead in *The Outlaw*, Hughes picked Jane Russell, an unknown, and kept her to stardom. Here once more, Hughes proved that he was as keen a judge of feminine curves as of airplane contours. His name has been linked with many glamor gals—Harlow, Ginger Rogers, Katherine Hepburn, Ava Gardner—but he drops them quick when the talk gets around to the now-we-are-engaged stage.

**In Business at 20**—Hughes' father left him the Hughes Tool Co., known all over the world for its oil well drilling equipment. The elder Hughes died while Howard was a freshman at Rice Institute and he left college to take over the business.

Young Hughes refused \$7,500,000 for the company, had an income of \$2,000,000 a year by the time he was 20. His interest has since strayed from the tool company and as an absentee owner he is not blamed for labor troubles which led to the plant's being taken over by the Army (BW—Sep.16'44,p90).

**Record Setter**—Hughes will be 39 on next Christmas Eve. He has been an airplane addict since his first flight at 14. In addition to his round-the-world feat, he established a world's land plane speed record of 352 m.p.h. in 1935 and a west to east transcontinental record of 7 hours and 28 minutes 25 seconds in 1937, which stood until it was eclipsed this year, first by the Constellation and a week later by the North American Mustangs (BW—May20'44,p15).

Admirers say Hughes flies like Lindbergh and looks like Gary Cooper, being 6 ft. 3 in. tall and somewhat on the gaunt side. They add that he is shy, reticent, and daring but without bravado. Critics substitute such adjectives as eccentric, secretive, high-handed. Hughes doesn't give a damn what any of them say but proceeds on his way doing exactly as he pleases.

**Pocket Cafeteria**—Just as he goes to bed when he gets sleepy, he eats when he feels the urge. That explains a paper bag that he is wont to carry. It contains sandwiches and possibly a bottle of milk.

If he gets hungry at 4 a.m. in a night spot or at 3 a.m. in a factory, he opens the bag, regales himself, replaces his rations in the bag, and resumes whatever he has been doing.



**GENERAL PATTON** *says:*

*Now as never before—*

**BUY WAR BONDS!**

**The Timken Roller Bearing Company**  
Canton 6, Ohio

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## Fighting for More Production?



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**EXECUTONE!**

**How This Modern "Inter-Com" System Saves Man-Hours... Increases Output**  
EXECUTONE puts you in instant conversational contact with every department of your organization! Saves time... conserves energy... minimizes waste motion.

EXECUTONE enables you to get information from your employees *the instant you want it*—eliminates the everlasting running back and forth from one office to another.

EXECUTONE speeds your phone service by taking the load of "inside" calls off your switchboard. Cuts down busy signals and expensive call-backs. Saves you money in many ways.

The "inter-com" system selected by the U. S. Navy for many of our fighting ships.

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Back the Attack—Buy War Bonds!

## Speed Sweep WITH A BACK OF STEEL



### Makes Light Work Out of Tough Sweeping Jobs

Steel back of Speed Sweep brushes is the basis of unique construction for faster, easier, better sweeping. Block is  $\frac{1}{2}$  usual size—easier to handle. Tufts of longer, better fibres are more compact—provide "spring and snap" action. Handle instantly adjustable to height of sweeper—reduces fatigue and strain. Speed Sweep brushes are built to outlast ordinary brushes 3 to 1.

#### FULLY GUARANTEED

Since Pearl Harbor Speed Sweep brushes have proved their superiority in many thousands of factories under varied conditions. They are unconditionally guaranteed to meet your requirements. Prompt shipment on AA-5 or higher priority rating. Write for styles, sizes, and prices today.

**Milwaukee Dustless**  
BRUSH COMPANY  
534 N. 22nd St., Milwaukee 3, Wis.

## Knight Expands

Owner of Akron, Detroit, Miami newspapers purchases controlling interest in Chicago Daily News from Knox estate.

John S. Knight ran his string of metropolitan dailies up to four last week. Already controlling—through Knight Newspapers, Inc.—the Akron Beacon-Journal, Detroit Free Press, and Miami Herald, he won the free-for-all scramble among half a dozen publishers to buy controlling interest in the Chicago Daily News from the estate of the late Secretary of the Navy Frank Knox.

• **Pays \$15 a Share**—To get 5,301 shares of Daily News common stock and 64% interest in Daneco Corp. (owner of 226,000 shares of the outstanding 400,000 shares of Daily News common), Knight paid in cash \$2,151,537.88. This represents \$15 a share for Daily News common, with a prorata adjustment for \$185,000 still owed by Daneco to the estate of Walter A. Strong, whom Knox succeeded as publisher in 1931.

Knight also purchased from Knox's widow 2,610 shares of Daily News common and her 2% interest in Daneco. Outstanding are 45,799 shares of \$100-par preferred and a funded debt of \$6,623,152.

The Daily News financial statement lists assets of \$24,137,000, of which more than half are intangibles—circulation, goodwill, and Associated Press membership.

• **Owns Building**—Physical assets, carried at \$8,903,000, include \$8,029,000 for the Daily News Building.

Net profits of the paper available to stockholders ranged between \$1,000,000 and \$1,500,000 in 1932-37, averaged \$675,000 in 1938-42, rose to \$1,010,000 in 1943.

Dividends paid out since 1932 represent about 85% of net profits, were maintained at this high level primarily to permit Knox to meet the serial payments on his purchase from the Strong estate. Working capital is around \$500,000, prompting Knight's remark early in the negotiations that common dividends should be suspended for two or three years.

• **Remains Independent**—As soon as the deal was closed, Knight assumed the duties of president and publisher of his new property. He announced that the News will remain politically independent and that it will continue to support Gov. Thomas E. Dewey's candidacy for the presidency.



John S. Knight (right) discusses the purchase of the Chicago Daily News with Judge John J. O'Connell who approved the deal last week.

## New Issues Peak

Competitive bidding gets a severe test as corporate bond offerings break record. Private sales also hit a brisk pace.

Boosted by the almost concurrent offering of Commonwealth Edison and Philadelphia Electric bonds totaling \$285,000,000, new-issue sales soared to \$346,000,000 last week—the largest weekly volume of new corporate offerings on record.

• **More Big Offerings**—Corporate financing this week, also very heavy, included two additional big offerings: \$115,000,000 Pacific Gas & Electric Co. and \$100,000,000 American Tobacco Co. bonds.

Some \$170,000,000 of other new industrial and utility bonds, plus many stock issues, are registered with the Securities & Exchange Commission for offering shortly. Some rail financing also appears likely as Chicago, Burlington & Quincy is about to ask for bids on a new \$40,000,000 bond issue.

• **Above Estimates**—Although earlier Wall Street estimates of \$1,000,000,000 of new financing between the Fifth and Sixth War Loans were once termed extravagant guesses, actual offerings in the period may prove 50% greater.

The recent huge volume of financing has been providing a severe testing of the principle of competitive bidding.

Thus far, however, it hasn't appeared to have gained many new supporters in the Street. It has been noticeable that





What will your  
post-war I.P. be?

This is the Sixth of a series of advertisements presenting "Industrial Par" and its importance to your company in all future planning. Save this and succeeding I.P. advertisements as the basis for discussion and as a guide to your planning program.

## Keeping the Business Gyroscope Balanced Is All a Matter of I. P.

Remember the gyroscope you had as a kid. You gave it a flip with a bit of string and there it stood spinning and gracefully balanced. As it lost its spinning momentum it began to wobble, and finally, as its motion was spent, it just keeled over.

That toy gyroscope symbolizes an important principle in the making and selling of goods. When we are able to produce more at lower cost we sell more. When mechanical refrigerators cost about \$400, they sold at the rate of 50,000 a year. When lowered production costs brought the price down to around \$160.00, a million and a half were sold every year. Increased sales call for increased production and increased production means more jobs. More jobs and wages, in turn, contribute to making more sales possible and those, in turn, mean even greater production at still lower costs. As long as nothing disturbs the cycle the wheels of business and industry keep spinning in balance, like the gyroscope.

To produce more at lower cost calls for increased output per man-hour. America's industrial greatness was founded on the fact that

we were able to increase our output per man-hour progressively through the years.

In fact, we have established a national industrial par — a constantly increasing output per man-hour equal to approximately 50% every 10 years. Our ability to maintain or excel this industrial par sets our level of national prosperity.

To increase output — to make better products at lower cost — demands production engineering skill, implemented with the best and most modern machine tools.

Machine tool productive power today is one-third to one-half greater than it was in 1939. Their increased effectiveness springs from vastly improved design and performance, rather than sheer numbers in use. Only with the most modern machine tools can any manufacturer hope to compete successfully over a period of years — make workers' jobs safer — more productive — more secure in the postwar days to come.

*Let's All Back the Attack!* BUY MORE BONDS

Spotlight facts for your  
post-war I.P. planning



\*Production methods — developed in wartime — increase man-hour output; pent-up buying power — released in peacetime — demands increased production.

\*The rate of 2½% increase per year output per man-hour, established by a 12 year record of industrial production, can be expected to reach at least 4% per year — compounded.

\*Manufacturers must set a goal of 50% increased output per man-hour every 10 years — to maintain a high level

of national prosperity and achieve its benefits in terms of security of jobs and wages for the greatest number of workers and the volume production of more goods for more people at lowest cost.

\*Machine tools — the most modern, most efficient — are recognized as the most effective implements of mass production and increased output at lowest cost — but only continual replacements with the newest and finest machine tools assures full productive capacity. Such replacements yearly should be equal to

10% of the total machine tool investment — in keeping with increased output.

\*The cost of machine tools is insignificant in terms of their productive power . . . from 1927 to 1937, according to census reports, American manufacturers had only a total of about 2% invested yearly in machine tools in ratio to a total volume of 9 billion dollars' worth of production annually.

††Industrial Par — the constantly increasing output per man-hour equal to approximately 50% every 10 years.

Milwaukee Machine Tools



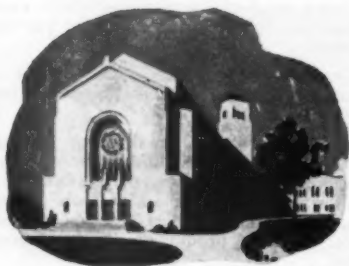
KEARNEY & TRECKER

CORPORATION

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## What's Cooking?



**M**AYBE your concrete house, a beautiful church, a firesafe hospital or a modern commercial building, because portland cement, made in giant rotary kilns, is the basic ingredient of concrete, the versatile, firesafe structural plastic.

Concrete is readily molded into any shape or form. Then it hardens into a rigid, strong and durable material.

### Finest Pavements

For postwar expressways, rural highways, city streets or modern airports, for all but the lightest travel, concrete, designed for any anticipated weight and volume of traffic, is the most economical pavement.

### Architectural Beauty, Too

Because concrete is plastic when first molded, ornamentation and texture can be provided at low cost. This makes it a preferred architectural material for bridges, buildings and homes, wherever attractive appearance is desired.

And with all the advantages of strength, firesafety, durability and beauty, concrete gives you low annual cost—the true measure of building economy.

May our engineers explain the advantages of concrete for your postwar building?

## PORTLAND CEMENT ASSOCIATION

Dept. 10D-12, 33 W. Grand Ave., Chicago 10, Ill.

A national organization to improve and extend the uses of concrete . . . through scientific research and engineering field work

**BUY MORE WAR BONDS**

companies not forced to auction off their new issues have been content to keep on using the old-fashioned private negotiation medium.

• **Three Private Sales**—In the last two weeks four issues of \$100,000,000 or more have been offered and absorbed in quick succession. However, three have represented privately negotiated deals, including the particularly "red-hot" Commonwealth Edison offering handled, strangely enough, after a privately negotiated sale by the nation's biggest booster of competitive bidding, Chicago's Halsey, Stuart & Co.

On all this financing, syndicates had plenty of time to perfect their arrangements, and to learn how the bonds would go, and the Commonwealth Edison underwriting and distributing group, for one, finally comprised 163 firms located all over the country.

• **Gives More Time**—Consequently, the Street doesn't think that the last two weeks provided any boost for competitive bidding. In fact, some brokers contend that it wouldn't have been possible to have handled such a vast amount of financing had it not been for the extra time provided through privately negotiated transactions.

This group also says that the Philadelphia Electric offering, the only one in which competitive bidding was involved, turned out to be virtually a negotiated sale since the bid accepted was the only one received.

It might not have turned out that way, however. The Wabash Ry. also opened bids last week on a \$47,000,000 issue it was counting on to refund \$4 now out. It found only one bid, too, but called off the sale as the terms offered were unsatisfactory.

• **May Affect Sales**—According to the anticompetitive-bidding group, often the wide difference between bids for an issue has a tendency to affect sale of the bonds publicly by the winning syndicate.

The September competition for the Great Northern Ry. bonds offers an excellent example, according to this group. Here a considerable difference of opinion as to the issue's worth was disclosed to the public in the bids offered by the only two syndicates participating (BW—Oct. 14 '44, p. 78).

This finally is reported to have resulted in lowering of the original offering price by two members of the underwriting group in order to move sticky bonds from their shelves, and at least one house withdrew its commitment from the market.

• **Current Bids Down**—Prices bid by other winning syndicates now appear to have been a bit high, also, since the best current bids in the market for ten recent offerings run anywhere from frac-

ions to as much as 24 points below the original offering prices.

The loudest complaints against competitive bidding, however, come from members of the winning syndicate's selling group since the higher the price paid for an issue the lower is the underwriting spread and the selling commission.

**Under Big Board Rates**—In many cases recently the commission for members of the selling group has been considerably under Big Board bond commission rates and a number of smaller members of selling groups have made no bones about the impossibility of financing much intensive selling effort for sticky issues on the basis of present concessions.

Still, despite all the screaming by its opponents, competitive bidding, judging from the \$960,000,000 of new issues offered in the last six weeks, certainly hasn't been a deterrent to new corporate financing this year.

**Worried Over Future**—Those in favor of privately negotiated sales admit this. However, in their complaints against competitive bidding they say they are not thinking just of today when everything is propitious for new offerings. It's primarily because they are fearful of what might happen if they should get stuck with four or five successive sour issues bought earlier at the high prices that competitive bidding appears to lead to.

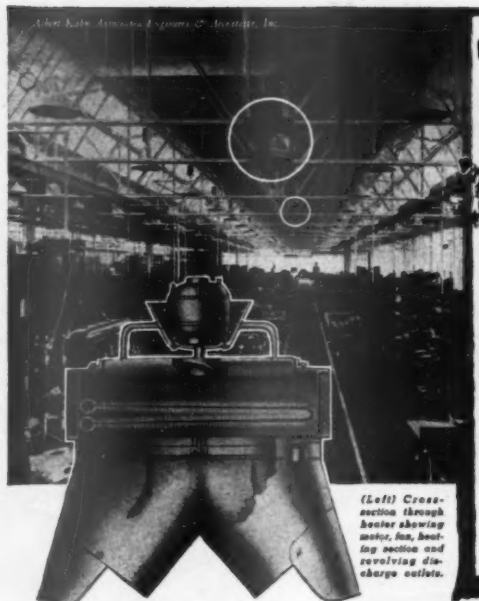
## Rail Debt Cut

Southern Pacific provides excellent example of way lines are putting finances in order. It trims funded debt 25%.

Ever since the war sent traffic soaring, the railroad industry has been using most of its lush earnings to correct past financial troubles, not to recompense stockholders for dividends long deferred. The railroads, always conscious of the unwieldy debt structures they built in the early thirties, have no illusions about the permanence of wartime prosperity.

**Spectacular Strides**—Results of aggressive debt reduction programs have been spectacular. Open-market purchases of outstanding bonds for retirement since 1939 solved many maturity problems that earlier had appeared virtually insurmountable.

Few roads have matched the debt reduction strides made by the Southern Pacific System which experienced a 60% drop in revenues in the 1929-33 period and soon saw its former high-grade investment status rapidly fade



(Left) Cross-section through heater showing motor, fan, heating section and revolving discharge outlet.

### ONE FACTORY MAN TELLS ANOTHER:



Say Tom, it was a lucky day for us when that heating contractor persuaded the boss to install those Wing Revolving Heaters. Remember how we all had to work with our coats on during the winter?

Do! And how production slowed up! It was too darn cold to work. Fred, I'll bet a hot increase in production for next winter alone will almost pay for the installation of these new heaters.

You're right Tom. That heating contractor sure knew what he was talking about.

## WING Revolving HEATERS

ELIMINATE HOT SPOTS AND COLD SPOTS

## Bring a new sensation of fresh, live, invigorating warmth to workers

The remarkable feature of Wing Revolving Unit Heaters that distinguishes them from all other types of heating systems is the fact that the discharge outlets revolve. Uniform distribution of the heat is accomplished because the moving streams of heated air sweep slowly around through 360 degrees, covering successively every direction.

### UNIFORM DISTRIBUTION

The air velocity is sufficient to carry the heat to walls and remote cor-

ners and the constantly changing direction of flow causes the heated air to find its way around obstructions; thus every part of the plant is kept at a comfortable temperature.

### NO HOT BLASTS

The gentle air motion created by the constantly changing direction of the discharge outlets creates a sensation of fresh, live, invigorating warmth, increasing the efficiency of the workers and contributing greatly to comfort and health.

Write for a copy of Bulletin HR-4

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Factories: Newark, N. J., Montreal, Canada



# WING



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ANSWER: Yes, through a CORPORATE SURETY PROBATE BOND  
which guarantees that man's "WILL"  
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## FOR BETTER THIRST RELIEF ELECT

*This Crusader for Human Efficiency*

Descended  
from pioneers  
in the  
water  
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field



The People's  
Choice—with  
a record  
of years of  
faithful  
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**X OASIS Electric Water Coolers**

VOTE FOR this winning candidate for the job of providing healthfully cooled, sanitary drinking water. It has made good in every office — in business and industry, as well as in public institutions of every kind. Win complete victory over thirst-fatigue with OASIS Electric Water Coolers.

The **EBCO** Manufacturing Company  
401 W. Town St., Columbus 8, Ohio

away under the impact of additional misfortunes.

• **Drain on Capital**—Not all the post-1929 deterioration in that system's finances was due to depression factors. It failed to earn fixed charges only in 1932-33-38, and profits for the eight-year period 1930-1938 were about \$9,000,000 after bond interest. However, during this period serious drains on its liquid capital developed from other causes, and soon \$40,000,000 of bank and Reconstruction Finance Corp. loans proved necessary.

Southern Pacific Co. dividends weren't stopped quickly enough. In 1931 they were some \$13,000,000 greater than earnings.

• **Paid RFC Loan**—Also, the system had to pay a \$6,000,000 judgment arising out of oil litigation. It likewise had to fork out some \$18,000,000 to settle a guarantee of an RFC loan made to its controlled St. Louis Southwestern road in an attempt to stave off bankruptcy.

The \$40,000,000 loans incurred in the early thirties were paid off in 1936 with proceeds of a new \$60,000,000 issue sold publicly. But by the close of 1938 it again owed RFC and banks another \$40,000,000 which it borrowed to take care of heavy capital expenditures contracted in 1936-37 (when the outlook seemed bright) and a 1938 deficit of some \$7,000,000 after paying fixed charges.

• **Heavy Maturities**—Working capital, over \$29,000,000 at the close of 1938, was down to \$250,000. And the situation was further accentuated by the specter of more than \$200,000,000 of maturities scheduled to fall due by 1955.

This sudden relapse badly scared the system's security holders. In 1938 the issue offered in 1936 at 98½% of par slumped on the New York Stock Exchange to 43. Junior bonds went for as little as 30¢ on the dollar, and Southern Pacific stock, which sold at \$65 in 1937, was available at around \$9.

But the management didn't lose heart, and there were soon signs of better things.

War began to make its influence felt. Also, the management closed up a severe drain on system cash by making a string of unprofitable subsidiaries, including the road's Mexican property, survive or perish on their own.

• **The Comeback**—By 1940 Southern Pacific Co. reported earnings of \$2.47 a share. Then profits started to soar. In 1942 net income reached more than \$80,000,000, or \$21.29 a share, a new all-time high and 70% better than in 1929, the previous record year.

Since then traffic has continued to climb, and earnings have stayed well above normal levels.

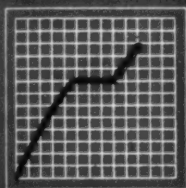
But higher operating costs and fed-



**1/16 TO 100 HORSEPOWER**  
Five types of gearhead motors have reduction ratios ranging up to 432:1.



available in combinations of all these types



**HIGH EFFICIENCY**  
More efficient than other types of slow speed motors . . . only 2% power loss in each stage of reduction, in parallel shaft type.



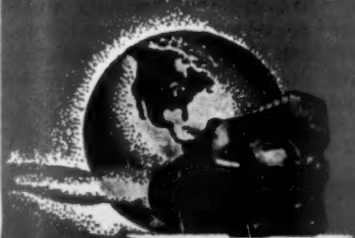
**GEARHEAD MOTORS**

These are the **good reasons why** gearhead motors met with such immediate success when The Master Electric Company originated and pioneered the first line of gearhead motors, years ago.

These are the **good reasons why** more gearhead motors in use today carry the Master name than all other makes . . . **COMBINED.**

These are the **good reasons why** Master Gearhead Motors will help you save money and still add greatly to the convenience, compactness and safety of your motor driven machinery. For best results, use them for either your plant or your products.

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**PROVEN RELIABILITY**  
Their durability and standing have been proven with millions of hours of service all over the world.



**UNDIVIDED RESPONSIBILITY**  
The complete Gearhead Motor is designed and built by one manufacturer in one plant.

**COMPACT**

Integral, compact design saves space, saves money, improved appearance.



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OFFICIAL U. S. NAVY PHOTOGRAPH

## Going along behind ... to the Front!

But there's nothing backward about these Navy field photographic trailers. Theirs is the job of bringing film-developing processes to advance bases to save time in producing mosaic combat maps and photo-interpretation reports from pictures taken by reconnaissance "camera" planes.

And, because speed is important enough to risk wheeling these mobile darkrooms full of delicate equipment through knee-deep mud and frequent attacks by Jap planes, there's no time for a laborious "bucket-brigade" type of water supply. For this job, R & M Moyno Pumps pick up water through a line dropped into any convenient creek, passing it through filtration and purifying equipment that makes it suitable for film-processing use.

To be sure, water isn't among the toughest materials in the world to pump. We have a long list of *liquids, semi-solids, and gases* that are. Yet, the Moyno Pump handles them with equal ease. Perhaps one of those problem materials is exactly what you're up against. Write us! We'll be glad to help. We can help you, too, with problems of motor application, materials handling, ventilation, and the conversion of machines to direct drive. Address: Robbins & Myers, Inc., Springfield, Ohio. In Canada: Robbins & Myers Co. of Canada, Ltd., Brantford, Ontario.



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eral taxes have become an increasing burden. Net income slumped to \$58,000,000 in 1943 and to \$30,000,000 in the first seven months of 1944, \$25,000,000 below year-earlier levels.

• **Funded Debt Slashed**—The real meat in the Southern Pacific success story, however, isn't its earnings recovery, startling as that has been. Far more spectacular has been the financial strengthening accomplished with its war earnings.

By Dec. 1 of this year the system will have retired more than \$190,000,000 of its outstanding bonds, or over 25% of its publicly held funded debt (excluding equipment obligations) at the close of 1939. Annual fixed charges will also have been cut by some \$7,300,000.

This, however, is but part of the picture. Cash assets, alone, were recently \$166,000,000, and working capital was up to around \$72,000,000.

• **Properties Improved**—This showing hasn't been accomplished at the expense of the property, either. Maintenance expenditures in 1943 totaled \$148,000,000, or 62% more than in 1942; in the first seven months of 1944 they were up another 37%. Seldom has equipment been reported in better shape.

Since 1938, also, Sopac (the system's Wall Street alias) has spent over \$90,000,000 for new equipment, including 130 heavy freight engines, 40 high-speed passenger engines, and 130 diesel switchers. And all but \$14,600,000 of such purchases appear to have been paid for already.

Sopac's well conceived debt retire-



Southern Pacific's president, A. T. Mercier, is at the throttle of that road's funded debt retirement policy.



# *Funds Available for RECONVERSION*

*To assure the success of your reconversion program, make sure that ample funds are available for immediate use or when peacetime production resumes.*

POSTWAR COMPETITION WILL BE KEEN! To meet it calls for purchases of machinery, equipment, retooling and increased inventories. The investment may be heavy and additional capital required to ease the strain on current working funds.

To help industry solve these financial problems, C.I.T. will arrange with you NOW for the money required to meet tomorrow's needs. Whether the amount be large or small, funds for reconversion purposes are available at reasonable cost and on extended terms.

We have no "set" plans which limit the scope of your activities; on the contrary, our services aid business expansion by providing operating capital through many flexible methods. Write or wire for information regarding "Funds for Reconversion". Your inquiry will receive prompt, courteous attention.

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**Combined Capital & Surplus Over 100 Million Dollars**

*In Canada: CANADIAN ACCEPTANCE CORPORATION, Limited, Toronto*

ment program has greatly reduced the once-heavy schedule of early maturities. Exchange Plan—Its next important maturity now is an \$88,211,000 Central Pacific 4% issue due in 1949. This is noncallable, and Sopac hasn't been able to reduce it to any extent by open-market purchases since the issue has been selling well above par.

However, the system isn't just sitting by waiting for the bonds to mature. Holders of the first \$50,000,000 to apply by Nov. 15 are now being offered in exchange a new better-secured issue, carrying 4½% interest to Aug. 1, 1949, and thereafter 3½% to maturity in 1974.

This is a new technique in railroad financing annals devised by the system to take advantage of current easy money conditions and its strengthened finances to overcome the problem of noncallable nearby maturities.

• More Refunding?—Wall Street anticipates that the system will soon undertake a straight refunding operation involving its \$25,000,000 San Francisco Terminal 4% bonds due in 1950, which are now selling 5½% above par, and already at least one prominent syndicate of underwriting houses has been formed to go after this business.

The road broke a ten-year drought in dividends with a \$1 disbursement in 1942 on the 3,772,763 shares it has outstanding. It followed this up last year with a \$2 payment. Thus far in 1944 it has paid out \$1.75, and at least part of Wall Street thinks that \$2.50 may be paid this year.

But the Street isn't too confident that this year's disbursements will exceed \$2 or that a more liberal dividend is in prospect for 1945, although the system—unlike some eastern and southern carriers—expects no real decline in traffic until the Pacific campaign has ended (BW—Oct. 7 '44, p15).

• Policy of Caution—The Street isn't certain that the road has finished all the debt retirement that the management has in mind; substantial cash might be required to pursue that program further.

But, most importantly, Wall Street seems fully aware that A. T. Mercier, president of Southern Pacific, and his board of directors have no intention of experiencing their 1938 nightmares again and are determined, despite still high war earnings, to follow a strictly safe-and-sane dividend policy to make sure the system is in as strong a position as possible when its war boom ends.

• Shares, Bonds Up—That is one primary reason why Southern Pacific shares are now selling on the Big Board at above \$32, or just a point away from their 1938-44 high; and why the road's junior bonds, which sold at 30 in 1938, recorded a new 1938-44 high of 87½ one day last week.

# PRODUCTION

## Powder Metals

Wartime development in molding and sintering powders is winning new friends to an art that found slow acceptance.

Subtle changes are beginning to be visible in the relationship of powder metallurgy and powder metallurgists to the frequently unsympathetic rest of the far-flung metalworking industry.

● **Antagonism Relaxes**—Sharply competitive attitudes of welders, screw machine men, stampers, die casters, and other metalworkers toward the comparative newcomers are becoming relaxed. The art and science of compressing and sintering metal powders into products of almost any conceivable degree of solidity is demonstrating, through application in war production, what it can do for them in the postwar future.

Metalworkers in the more fully accepted arts have gradually, if grudgingly, recognized over a period of 30 years that there are at least five classifications of manufactures that cannot be produced economically, if at all, without metal powders:

(1) Metallic paints, pyrotechnics, thermite for welding, and other items not usually considered to be within the strict realm of powder metallurgy, i.e., compressing solids out of powders; (2) wire, electrodes, electrical contacts, and the like made of tungsten, tantalum, or other tough, refractory metals; (3) porous metal bearings; (4) cemented tungsten and tantalum carbides; (5) specialized electrical contacts, such as electrodes used in spot welding, with a current- and heat-conducting matrix containing wear-resisting particles of hard metals or nonmetals to give them long life and maximum freedom from redressing.

● **Wartime Advance**—But it took a long, hard war and a shortage of experienced die sinkers to convince die casters of tiny, intricate parts, such as the multitudinous teeth of zippers for the garments and gun covers of the armed forces, that a convenient and time-saving way to keep up with accelerated production is to make their dies, or molds, which wear out in casting two or three million teeth by powder metallurgy instead of cutting them one by one out of solid die steel.

Steel shells for lobbing high explosives into enemy positions would have

been next to impossible if stampers had not had superhard and wear-resisting carbides, which stem from soft powders, for facing their progressive drawing dies; screw machine men might have been held to billions instead of trillions of parts for guns, tanks, and planes, if they could not have obtained the same hard carbides for their cutting tools.

● **Strength and Uniformity**—Welding without electronic controls and electronic controls made without powder metallurgy are equally inconceivable in the present advanced state of both arts. Controlled and timed by fallible man, millions of electric weldings would not have approached the strength and uniformity demanded by war materiel and probably could not have been fabricated at all. Electronic tubes without targets and wires of tungsten or other metals that started out as powders would simply not exist.

It was in the drawing of tungsten wire, without which there would be no modern fluorescent or incandescent lighting and little if any electronics, that powder metallurgy got its start in this country. Drawing bars of solid tungsten were too tough to be swaged and drawn. Drawing bars achieved by reducing wolframite, or tungsten ore, to fine, impalpable, almost chemically pure powder, compressing the powder tightly in a power press, and sintering the whole

electrically are sufficiently ductile to be drawn into wire with comparative ease. ● **Powder From the Start**—Two facts should be noted: (1) that the metal tungsten is in powder form from the beginning of the process and does not achieve ultimate solidity until it comes wire; (2) that the resultant wire, though it starts as powder, is the strongest ever produced in any metal, with tensile strength of over 500,000 psi.

Both facts are important because (1) Practically all the metals used in powder metallurgy (and they range through the alphabet from aluminum to zinc and zirconium) begin and remain in powder form until compressed, sintered, and sized, or coined by a second pressing operation, into solids of desired contour, precision, and density—all of which is contrary to general lay opinion which envisions the shattering of solid metals into metal powders and the combining of them; (2) products made by powder metallurgy have all the physical properties of those cut or formed out of solids and can have certain plus properties achievable by no other method. The controlled porosity of porous metal bearings, for instance, which provides millions of tiny reservoirs for lubricating oil, lengthens periods between oiling and encourages such bearings to be known popularly as "oilless."

● **Evolution Sketched**—It was shortly after the World War when powder metallurgy began to evolve from a poundage to a tonnage basis—the statistics of which are restricted information. Until the early 1920's, the chief appli-



A. J. Langhammer, president of Chrysler's Amplex Division, likes to show all comers the precision micrometer frames, V-blocks, and gages made by powder metallurgy to open a wartime bottleneck in such measuring equipment.

## MORE TO COME

This is the first of two articles on powder metallurgy. It seeks to sketch the broad outlines of the art, its major exponents, some of its many present applications to metal and alloy products, and to provide a tentative dip into its postwar future.

The second article, which will appear in a forthcoming issue, will further discuss the superhard carbides of tungsten and carbon—versatile outgrowths of an important branch of powder metallurgy that does the seemingly hopeless job of uniting metals and nonmetals to form new and hitherto impossible substances.

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ation had been tungsten wire, and a good many miles of lamp filament can be drawn from a pound of drawing bar. Beginning in 1923, the Bound Brook Oil-Less Bearing Co., Bound Brook, N.J., amplified its line of impregnated hardwood bearings and cast graphited-bronze bearings with "oil-retaining porous bronze bearings." They caught on quickly in applications ranging from automobiles to home appliances and machine tools.

As automotive applications mounted from a couple per car to dozens, two of the big automotive builders established powder metal plants of their own: the Amplex Division of Chrysler Corp., Detroit, and the Moraine Products Division of General Motors Corp., Dayton, Ohio.

**Independents Rise**—Since Ford Motor Co. and the automotive independents relied on custom producers for their bearing supplies, additional competitors entered, the powder metal lists and prospered: Keystone Carbon Co., St. Marys, Pa., Johnson Bronze, New Castle, Pa., Neveoil Bearing Co., Wakefield, Mass., and others. Amplex and Moraine expanded their activities beyond their own corporate needs, becoming custom producers for all comers and enlarging their scopes to nonporous, nonbearing components from 1/16 in. diameter to 22 in. and up to 60 lb. weight. Amplex is now talking about being able to go as high as 100 lb. Bound Brook, the "largest independent" in powder metallurgy, seems to prefer smaller sizes and weights with larger runs.

Meanwhile, a number of manufacturers equipped themselves to apply metal powders to various specialties: R. R. Mallory & Co., Indianapolis, pioneering in copper-tungsten electrodes for welding equipment, silver-cadmium oxide electrical contacts, copper made of metal



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powder with higher hardness than copper hard-drawn from the solid metal, high-density, high-strength tungsten gyroscope rings for aircraft; General Electric Co., Schenectady, N. Y., adding to its early achievement of making tungsten wire and tungsten carbide (the latter being produced by its subsidiary, the Carboloy Co., Detroit) out of powder, by manufacturing its Alnico high-strength permanent magnets from the powders of aluminum, nickel, cobalt, and iron—hence the name; the S. K. Wellman Co., Cleveland, and the General Metals Powder Co., Akron, Ohio, competing in showing the way to smooth clutch and brake action on heavy-duty automotive vehicles, industrial machinery, and ordnance equipment by pressing and sintering various mixtures of copper, tin, lead, and other powders to steel backing plates and bands as friction facings; Powder Metallurgy Corp., Long Island City, a subsidiary of General Bronze Corp., dedicating itself not so much to bearings as to the production of high-precision parts, most of them on the restricted list for the duration, which can be assembled into machine guns, military tanks, whatever, with little or no subsequent machining.

• **All Look Alike**—To the lay eye, unpracticed and unassisted by a microscope, the finely divided powders of any particular element used in powder metallurgy look as much alike as black cats in the dark. One batch of copper powder, for instance, may look and even feel like two or three others.

Under the microscope, however, the individual particles of a batch may be seen to be flaky, granular, acicular, porous, globular, or nodular, depending upon the way they were manufactured and upon the use to which they may be put. Two or more types and sizes are frequently blended to achieve definite physical characteristics, such as porosity in bearings.

• **Sizes Vary**—Particle sizes can be as fine as 0.1 micron (0.000004 in.) or coarse enough to be just able to pass through a 20-mesh screen. Since it is technically impractical, if not impossible, to segregate sizes completely, a trade practice has sprung up of specifying powders by screen analysis.

Nickel powder might be ordered to test 100% capable of passing through a 325-mesh screen, or "minus 325," but is more likely to be specified for a particular purpose as "5% minus 150 plus 200, 17% minus 200 plus 325, and 78% minus 325." Copper powder comes in more than a dozen commercial sizes, or "grades," ranging from "100% minus 325" to "85% minus 20 plus 40, 15% minus 40 plus 100." Aluminum powder grades for powder

metallurgy dropped in number from 13 to four during the war by reason of government limitation and standardization orders.

**How They're Obtained**—Although some powders for powder metallurgy are produced from solid metals by filing, pounding, and grinding, the big bulk of them stems from electrolysis, atomization, steam-shattering, or reduction of metal salts by gases. Both iron and nickel powders are being produced increasingly by the carbonyl process wherein the carbonyl vapors of the metals are decomposed, or relieved of their carbon monoxide content, leaving fluffy powders of high purity.

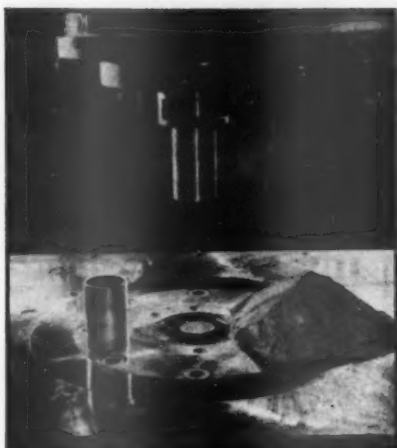
Probably the only powder producer to spreadeagle the field with comminuted metals and alloys of every description made by any desired process is the Metals Disintegrating Co., Elizabeth, N. J., which began operations in 1916. Its standard line encompasses powder stocks of copper, aluminum, nickel, chromium, cadmium, silicon, silver, antimony, tin, lead, tin-lead solder, zinc, and copper oxide.

**Lines Vary**—Belmont Smelting & Refining Works, Brooklyn, produces powders of copper, lead, aluminum, tin, solder, iron, steel, zinc, cadmium, and bismuth. Metal Hydrides, Inc., New York, has an even more restricted line of zirconium and the titanium metals.

U. S. Bronze Powder Works, New York, specializes in aluminum and bronze powders as its name implies. Likewise the Aluminum Bronze Powder Co., Bedford, Ohio. Both Plastic Metals, Inc., Johnstown, Pa., and the Metals Refining Co., a division of the Clidden Co., Hammond, Ind., work solely in tungsten and tantalum powders for the hard carbides and other purposes are manufactured by such pioneers as Fansteel Metallurgical Corp., North Chicago, Ill., and the Callite Tungsten Corp., Union City, N. J.

**List Is Endless**—Any complete list of powder makers would be endless for it could not fail to include such refiners of virgin ores as Aluminum Co. of America, International Nickel Co., New Jersey Zinc Co., American Smelting & Refining Co., Handy & Harman, Kennecott Copper Corp., U. S. Magnesium Co., and many others. General Aniline & Film Corp., not usually considered a metal producer, is a principal source of carbonyl iron powder.

Continental Machines, Inc., up to now a builder of machine tools and precision measuring instruments, is extending its scope not only by establishing a new Alloy Metals Division at El Paso, Tex., to produce a full range of metal powders, but also by developing a full line of equipment to fabricate them. It is not only manufacturing



*Fabricating a sleeve bearing (left) by powder metallurgy requires all the powder metal in the pile, no more, no less. The impalpable material is fed into a die in the bed of a vertical power press and squeezed to form by the descending tube-like plunger.*

hydraulic presses, gas and electric sintering furnaces, and generators for producing the nonoxidizing gases used for atmospheres in the furnaces, but also operating its DoAll Trade School, Des Plaines, Ill., which offers among others a "complete course in the practical application of powder metallurgy." This includes diemaking, pressing, and sintering, but is not a course in metallurgy. A trade school could hardly compete with Massachusetts Institute of Technology, Stevens Institute, and other centers of higher learning which have recently established departments of powder metallurgy as such.

**Sharing the Load**—Establishment of the departments, some of whose professors are available to industry as consultants on powder metallurgical problems, is serving to remove considerable consultative load from the Hardy Metallurgical Co., New York. The firm, whose widely experienced president, Charles Hardy, is considered by many to have introduced powder metallurgy to this country when he arrived from Europe in 1915, occupies a unique position in the industry. It neither produces powder metals nor compresses them into products.

More or less jealous copioneers in the field have been known to say that "Hardy's main activity is the promotion of Hardy," but the firm's basic business is the formulation and sale of special powder blends and specifications to meet specific product and production requirements. Though it acts somewhat in the manner of a sales agent for almost

all of the powder producers, it will undertake long-range research in powder metallurgy on a cost basis. Since many such assignments are piled up ahead of its laboratory technicians, Hardy is only too glad to have professorial relief from the consultative load.

**From "Pill" Presses**—Probably the first machines used in this country for compressing metal powders into mechanical elements were drug-tableting, or "pill," presses manufactured by the F. J. Stokes Machine Co., Philadelphia, thus gaining a head start toward meriting the current opinion in the field that "nine out of ten parts that are compressed from powdered metals" are made on Stokes presses.

That Stokes will have to fight for continuing leadership is evidenced by the fact that the E. W. Bliss Co., Brooklyn, the Hydraulic Press Mfg. Co., Mount Gilead, Ohio, the Kux Machine Co., Chicago, and other experienced builders have all added competing lines of powder presses. Press capacities have mounted during 29 years from five or ten tons to 500 tons, the biggest to date, furnished by an H-P-M hydraulic and making possible the 100-lb. parts proposed by Chrysler. (As a broad, general rule, the denser the metal and the larger the pressing, the higher is the pressure required.)

**No Monopoly**—No single manufacturer of furnaces for sintering, or fusing together the particles of a powder pressing at a temperature just below their melting points, has ever dominated the field. For one thing, the early sintering furnaces were converted heat treaters, with or without control of atmosphere (which is a must for readily oxidizable metals such as iron or aluminum). For another, one fair-sized furnace will take care of the production of several presses.

If temperatures have to be high, as in the sintering of iron parts and carbides, or if utility rates are favorable, the furnaces are heated electrically. If temperatures are medium, as for bronze porous bearings, or low, as for zinc and lead pressings, the fuel is likely to be oil or gas. Any representative list of furnace builders will include Surface Combustion Corp., Toledo; Electric Furnace Co., Salem, Ohio; W. S. Rockwell Co., New York; Harper Electric Furnace Corp., Niagara Falls, N. Y.; Mahr Mfg. Co., Minneapolis; Lindberg Engineering Co., Chicago; General Electric Co., Schenectady, N. Y.; Westinghouse Electric & Mfg. Co., East Pittsburgh; and many others.



**They Won't Flow**—Although powder metallurgy may be said to have advanced many steps in its three decades of progress from an art to a science, there is one apparently insurmountable limitation that may always plague the ex-

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tremists among its proponents—can't make metal powder flow around corners in a mold. But those less extreme will plug along making the things it does well. If they have to thread or deep undercuts or other contours that are not practical to machine, they feel it will be a break for the machine tool builder and the machine. Haven't they demonstrated that on an important, but still secret, gun part their methods were 200 times as fast as standard methods, and the cost one-tenth as much?

Bottlenecks in precision measuring instruments have been broken by the ability of powder metals to be molded quickly into goosenecks for micrometers, precision V-blocks, plug and angle gages. Surface plates for magnetic chucks add potency to the flux by having their copper striations pressed integrally out of powder with their solid soft iron strips. Intricate trigger parts for machine guns begin life as powders. Brushes for countless motors have for years been molded out of copper and carbon, a metal and a nonmetal, that refused to be "alloyed" together before powder metallurgy came along.

• **Uses Are Many**—Porous aluminum bearings of unbelievably light weight, a 1944 development, are becoming as readily available as porous bearings of iron or bronze. Porous metal filters, some of bronze and some of silver alloy, are finding employment in chemical laboratories and in the fuel, air, and lubricating lines of gasoline engines and diesels. Though not a strict example of powder metallurgy, speedometer wheels are molded of plastic impregnated with particles of Alnico magnets made of powders. Spur gears of almost any metals or alloys are molded with teeth so accurate that they require little or no subsequent finishing. Helical gears based on powder cannot yet be made practically, because it would take too long to unscrew them from a die, but one powder metallurgist thinks he will yet solve the problem.

Just around the postwar corner are wires and strips and pressings of 18-8 stainless steel whose chromium, nickel, iron, and carbon never will see the inside of an electric furnace, unless it be in the sintering operation of powder metallurgy. The various alloys, produced as powders directly from their native ores, will be blended in their proper proportions as a single quick step in processing. Steel strips and even sheets, backed with stainless steel for a host of chemical and construction purposes, will be made by laying the blended powders of chromium, nickel, iron, and carbon on their surfaces and letting high-pressure rolls and sintering furnaces do the rest.



## Metals on Parade

Many big companies have dropped out for the war, but small ones swelled attendance to new record at national exposition.

Elaborate display booths were noticeable by their absence at the National Metal Exposition, held at Cleveland Public Auditorium, Oct. 16 to 20. In fact, the large steel companies and the big welding equipment suppliers have dropped out of the show during the war years. Their places have been taken by small businesses which swelled the total displays to 442, and attendance to more than 40,000, both records.

**Induction Heating**—An outstanding trend was the further emphasis on induction heating, including one new entry in this field. American Type Foundry made its debut with two automatic units of 15- and 30-kw. capacity. At least eight other concerns previously in this field were represented with dramatic displays showing the quick heating of metal parts without contact with any visible source of energy (BW Oct. 14 '44, p68).

For hardening operations heating is followed by an automatic spray quench which for small parts often reduces the entire hardening cycle to a matter of seconds. Other applications of high-frequency heating are brazing, annealing, and soldering. Crowds witnessing these demonstrations gave evidence of keen interest in the subject.

**Inspection Devices**—Another noticeable trend was reflected in the number of inspection devices which have been stimulated by the exacting requirements of the armed services during the war and which will, no doubt, carry over to postwar applications. Industrial X-ray, for example, was displayed in many new types of equipment particularly designed for the industrial user. Some of these units are arranged for the rapid handling of small parts by casting fluoroscopic images or by the economical production of X-ray negatives. Convenient portable units were also in evidence for use on larger castings and welded assemblies.

One new application of X-ray gages the thickness of metal foil to accuracies of four-millionths of an inch. A modification of the same principle is employed to inspect coaxial cable electronically to determine the concentricity of the conductor with respect to its surrounding insulation.

**Wide Application**—The cathode-ray screen has been adapted to examine metal parts in determining such char-

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acteristics as depth of carburization, chemical analysis, internal stresses, heat-treatment, or thickness of plating. As a result of its work in aircraft development, the Glenn L. Martin Co. produced an instrument which uses the cathode-ray oscillograph for dynamics measurements. Postwar applications for this device may determine the riding qualities of motor vehicles, measurement of critical stresses in steel structures, and the shock mounting of electronic equipment.

Shot peening was given attention by the American Foundry Equipment Co., and the Pangborn Corp. Through the introduction of equipment for shot blasting as a method of cleaning metal parts, it was found that the action of fine metal particles resulted in a harder surface and fatigue-resistant properties. This process has been applied to metal parts, where cleaning is not needed, in order to lengthen their useful life.

• **Flame Cutter**—The Struthers-Wells Corp. offered an electronic flame-cut-

ting machine in which the contour of a plate cut by a gas torch is determined by plastic control records (BW—Aug. 26'44,p80). Four identical plates may be cut at one time through the use of this equipment.

The Progressive Welder Co.'s booth concentrated on storage-battery resistance welding (BW—Oct.21'44,p70). Both spot-welding and seam-welding units were shown with refrigerated electrodes. This development was made possible by the improvement in storage batteries made for military uses.

## For Broken Mains

Powder mixed with water is shot into main, sealing off gas for an hour. Method may be used on 12-in. pipes.

When bombing was a serious threat to American cities, quick shut-off of broken gas mains looked as though it might be a major problem. Slug-A-Fome, a product developed to meet the expected emergency, now bids fair to become a standard part of gas companies' repair equipment. Makers of the product report that a 6-in. main can be closed off in 13 seconds and a 12-in. pipe can be sealed in one and one-half minutes.

• **Builds Up Pressure**—Slug-A-Fome is a powder which, when mixed with water

and shot into a low-pressure gas main with a special applicator, forms a porous material and builds up internal pressure sufficient to stop the flow of gas for at least an hour.

The setup can be made adjoining main break, the gas company carries the Slug-A-Fome to the main and a water service supplying the necessary water. Additional injections are efficacious for repair jobs requiring more than an hour.

• **Used Instead of Grease**—After repairs are completed, the plug can be flushed away leaving practically no residue. Grease, first advocated for war emergency repairs, not only is troublesome to remove but also cannot be used on conduits larger than 8 in. The conventional bags and stoppers require considerable time.

The method, rather than the powder itself, which consists primarily of ordinary foam ingredients of aluminum sulphate and sodium carbonate, has been patented and is being merchandised by the Mulcare Engineering Co. Inc., of New York.

• **Method Tested**—Successful demonstrations of Slug-A-Fome have been made recently before the New England Gas Assn. and at the Delaware division of the Philadelphia Electric Co. In the latter test, the gas supply was turned on in a six-inch main and the gas was lighted at the open end. Gas pressure was 6 in. of water column, with gas supplied at the rate of 6,000 cu. ft. an hour. Water pressure required was approximately 30 lb. a sq. in. and approximately a half gallon a second was used. Under these conditions, the Slug-A-Fome method, using 12 lb. of powder sealed the main in 13 seconds.

## REPORTS ON MEAT TESTS

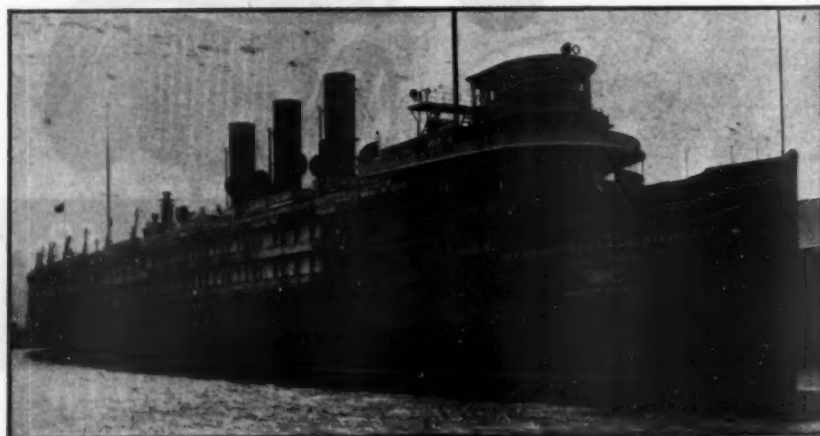
Dehydrated meat that is only one third its original bulk and weight is a desirable factor when shipping space, storage room, and distribution problems are complicated by war, is now a possibility. The Dept. of Agriculture reporting on the result of two years of experiments, says that the meat is palatable, keeps well, and retains most of its vitamins.

Eight methods of dehydration used successfully with other foods were tried, with considerable preference being given to the vacuum rotary method. Precooking and drying can be done in the same machine by this method.

Using boned, trimmed, fresh meat the experimenters found that dehydration saves 60% to 70% weight and by use of compression, bulk can be cut 65% to 73%. The American Meat Institute and the University of Chicago collaborated on the tests.



By serving as a floating hotel, the lake steamer Greater Detroit (below) helped house crowds that swamped Cleveland's already jammed hostels during last week's metal exposition. Its small staterooms, with upper and lower berths (left), accommodated 1,200 visitors during the show.





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### Versatile Grinder

Operators of the new Porter-Cable Bench Belt Grinder for metals and non-metals are afforded the equivalent of two tools at their constant disposal, plus a couple of others as need arises. The



motorized machine, manufactured by the Porter-Cable Machine Co., Syracuse 8, N. Y., swings an endless 2-in. abrasive belt of any desired grit size around a canvas contact roll of 7 in. diameter to grind tool bits, clean weld flashes, whatever. The belt meanwhile slides over an adjustable platen (center), which can be set to support the top or bottom of the belt, to grind flats and arcs of many descriptions. The idler pulley, which holds the belt in tension, is equipped with an eccentric handle for adjustments and quick belt releases during changes to different grits.

In the event that an operator requires a rotary wire brush or a buffer in his work, he can attach either one to the end of the arbor shaft that turns the canvas roll without interfering with its grinding function. If there is call for spindle grinding, rotary filing, or drilling, a chuck for such cutting tools can be threaded on the same arbor.

### Bright Alloy Plate

Newest thing in electroplating is "Bright Alloy Plate," developed by Westinghouse Electric & Mfg. Co. and being made "available to all American industry" through the Hanson-Van Winkle-Munning Co., Matawan, N. J. Purpose is to provide a tough, shiny, nonmagnetic coating of three metals in alloy form—copper, tin, and zinc—with only one operation in a single bath. Principal wartime application is proofing instrument parts against corrosion. Peacetime applications will run a gamut

from coating refrigerator trays to protecting drafting instruments, dental tools, clock works, office machines, and other products against wear and corrosion.

Electrical conductivity of the three-metal plate is said to be "high." Porosity is reported "low," hence a little will go far. As the developer explains, "The process permits use of much thinner coating than do conventional anticorrosives. To protect instrument parts with nickel plate, for example, at least 0.0005 in. of metal is needed—two and a half times the 0.0002-in. thickness needed when bright alloy coating is used."

### Chemical Wire Stripper

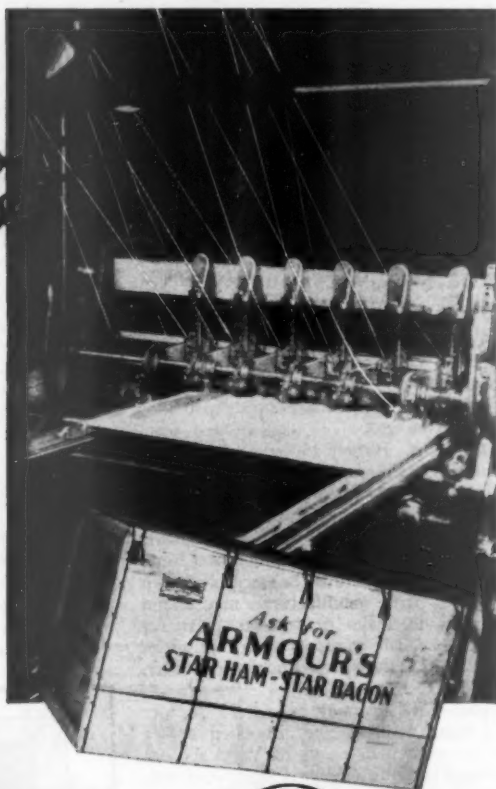
New speed, convenience, and control in the rapid removal of insulating coatings from wires and baked enamels from objects which cannot or should not be submerged are triple goals of Fidelity Stripper #306, new formulation of the Fidelity Chemical Products Corp., 430 Riverside Ave., Newark 4, N. J. The material is a liquid, applied with a brush at room temperature, which is said to cause coatings to "puff and leave the metal . . . usually in less than a minute."

### THINGS TO COME

Spark plugs for all sorts of automotive vehicles to come will have lives three or four times as long as prewar plugs, if their manufacturers will take a leaf from wartime aircraft experience. Secret of extended life is a core of copper in a plug's central electrode which has the inherent faculty of conducting heat rapidly, hence helps to keep the nickel-alloy or other metallic sparking points cool and pitless.

If every other tooth in a person's mouth is missing, he has little chance of chewing his food with comfort, speed, and thoroughness. If every other tooth on a postwar bandsaw is deliberately ground out (or left out entirely during manufacture as is beginning to be done), the resultant "skip-tooth" blade will become a genuinely efficient, high-speed cutter of aluminum, brass, bronze, magnesium, plastic-impregnated plywood, reconstituted wood panels, synthetic plastic compositions, and other materials. Far from being a chewer of material, the blade seems destined to open new possibilities in clean, fast cutting.

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\*Rathbore Hair & Ridgway Co., Chicago, Ill., Savannah, Ga., and Jackson, Miss.

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# WAR BUSINESS CHECKLIST

A digest of new federal rules and regulations affecting priorities and allocations, price control, and transportation.

## Information

The first instalment of a Handbook of Standards for Describing Surplus Property has been issued by Surplus War Property Administration, to help contractors in listing surplus property. Sections I and II cover Metal and Metal Basic Products, and Wood Basic and Finished Products. Copies are available at the office of the Superintendent of Documents in Washington.

## Increased Civilian Supply

WPB will grant permission to manufacture copper and copper-base alloy sheet, roll, strip, and rod for building construction repairs and replacements and to fill U. S. military contracts. Copper and copper-base alloy are freed for use in 17 civilian and commercial items. (Order M-9-c, as amended.)

• **Automatic Phonographs**—Manufacture of repair parts for used "juke boxes" and used gaming machines is authorized by WPB to the extent that materials are made available by conservation orders. Though machines may not be manufactured or assembled from new or old parts, manufacturers may obtain permission to make or transfer parts for other than repair purposes under Priorities Regulation 25, the spot authorization order. (Order L-21, as amended.)

• **Apples**—Civilians may expect 13 lb. per capita more of fresh and processed apples than last year, as a result of WFA's order releasing 83% of the supply to civilian use.

## Correction

The provision in WPB Order M-2-c that approval by WPB or by Aircraft Resources Control Office is not needed in placing rated or unrated orders with suppliers applies only to magnesium and magnesium products, not to aluminum products (BW—Oct. 14'44, p82). Magnesium orders so placed are subject to Priorities Regulation 1.

## Relaxed Restrictions

Purchasers may place and manufacturers may accept orders now which are not to be filled till applicable WPB restrictions are removed. Orders may not be scheduled for production until controls are revoked. (Interpretation 11, Priorities Regulation 1.)

• **Housing Construction**—Relaxed restrictions on materials will permit construction approximating prewar standards, though an over-all limitation prohibits the use of lumber two or more inches thick in a dwelling unit. Electric outlets, hot water storage tanks, plumbing items are affected by the relaxation, announced by WPB and National Housing Agency, in a revision of Schedules I and II of Limited Preference Rating Order P-55-c.

• **Brass Plating**—This may be used in cabinet locks, padlocks, and builders' finishing

hardware, with some exceptions. Prohibitions on nickel, chrome, and cadmium plating remain, however. (Schedule I, WPB Order L-236, as amended.)

• **Asphalt**—Because the supply is sufficient, Petroleum Administration for War has revoked Directive 66, which specified the types that could be produced.

• **Incandescent Lighting Fixtures**—WPB has revoked Order L-212 controlling production, but allotments of controlled materials will continue to restrict output. Nonindustrial portable lamps and shades remain subject to Order L-33.

• **Special-Purpose Saws**—WPB has lifted limitations on volume of production of mitre box saws, cabinet saws, compass and keyhole saws, and pruning saws, and has freed Grade C handsaws from production restrictions. (Schedule III, Order L-157, as amended.)

## Tightened Restrictions

Manufacturers of paper and paperboard are required to hold in reserve, for distribution on WPB order, 35% of their total production of groundwood, printing, book, writing, and coarse wrapping paper. Reserves of condenser tissue and sanitary food container

stock remain at 100%; other papers are at 15%. (Order M-241, as amended.)

• **Cotton Cordage**—Makers of cotton textiles who have machines to produce twisted or braided cotton cordage of stated specifications must produce a minimum poundage of these ropes unless production will cut into the output of manila, sisal, jute, hemp, or coir rope. (Direction I, Supplementary Order M-317 B.)

• **Liquid and Powder Urea Resins**—Beginning with November, monthly small-order exemptions will be 2,000 lb., instead of 10,000 lb., as formerly, because a recently expanded ordnance program has diverted large quantities of formaldehyde, essential in resin production.

• **Paper Cups and Food Containers**—Military set-asides for October are increased to meet increased requirements. By liberalizing the definition of in-plant feeding, WPB has enabled smaller plants without kitchen facilities to use MRO ratings to get containers. (Order L-336, as amended.)

## Price Control Changes

Jobbers' markups on sales of peanut oil meal products have been adjusted by OPA from 50¢ per ton for carload sales and \$1 per ton on less than carload sales to a flat 75¢ per ton for all sales, except pool-car sales, which continue with the \$1 markup. Prices to farmers are not affected by this action, which brings peanut meal under the controls of Supplement 7 to Food Products Regulation 3.

• **Retail Food Stores**—OPA has ruled that the net cost of food items that are purchased



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C-O-Two Fire Equipment Co.  
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Cairo, Ill.  
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(Two plants)  
Hackensack Cable Corp.  
Hackensack, N. J.

Ironrite Ironer Co.  
Detroit, Mich.  
Kemis Engineering Co.  
Philadelphia, Pa.  
Lee-Sparling Co.  
Detroit, Mich.  
Okonite-Callender Cable Co.  
Paterson, N. J.  
Orange Roller Bearing Co.  
Inc.  
Orange, N. J.  
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(Four divisions)  
Van der Horst Corp. of America  
Cleveland, Ohio  
Walworth Co.  
Washington Park, Ill.

(Names of winners of the Army-Navy and Maritime Commission awards for excellence in production announced prior to this new list will be found in previous issues of BUSINESS WEEK.)



by retailers in Groups 3 and 4 (chain and independent stores with an annual business of more than \$250,000) through affiliated organizations and that are priced under the fixed markup regulation may not exceed the net cost paid by the affiliated organization. This does not apply to items manufactured or processed by the retailer or the affiliate. Additional markups are allowed on fresh fruits and vegetables. (Amendment 31, Regulation 422.)

• **Combed Cotton Twill**—Producers of 8.2 oz. weight used for Army uniforms may sell to the Quartermaster Corps on an adjustable pricing basis under OPA Amendment 24, Regulation 127, which brings uniform twill under the finished piece goods regulation. Until specific prices are set for the fabric, MPR 157 will control ceilings, subject to later adjustment.

• **Gasoline**—To protect buyers, OPA has ruled that service stations and other retail establishments may sell at the established premium grade only gasoline that meets a minimum octane specification of 75 A.S.T.M.

• **Bulk Rolled Oats**—Manufacturers' prices for containers holding more than 3 lb. have been frozen at each seller's highest price during the period Jul. 1-Aug. 5, 1943, to relieve the squeeze on wholesalers and retailers and to restore the 1943 relationship between prices of packaged and bulk rolled oats. (Amendment 179, Revised Supplementary Regulation 14.)

• **Boxcars**—Interstate Commerce Commission has temporarily increased demurrage rates to discourage delays in loading and unloading. OPA has announced.

• **Luggage Frames**—Dollar-and-cents ceiling prices for frames produced in New York, New Jersey, and Pennsylvania have been announced by OPA at levels 35% higher than previous ceilings. Luggage manufacturers will absorb the increase. (Amendment 182, Revised Sup. Regulation 14.)

• **Wet Gelatin Raw Stock**—Specific dollar-and-cents ceilings have been fixed for producers' prices at levels based on weighted average prices in 1943. Dealers' prices will be established by OPA upon individual application. (Regulation 563.)

• **Hard Rubber SLI Battery Containers**—Manufacturers' ceilings for containers, covers, and vents on Starter, Light, and Ignition batteries are increased 10% on containers, 15% on covers, and from 15% to 30% on vents. (Order 37, OPA Regulation 149.)

• **Christmas Packaging**—Last year's formula for pricing gifts specially packaged by the manufacturer or producer will apply on this year's wholesale and retail sales, until Jan. 15, 1945. Cosmetics are not covered by this order but are subject to MPR 393. (Amendment 2, Supplementary Order 24.)

## Ration Control Changes

Bakers and other industrial users of rationed foods may transfer part of their businesses to other communities, provided that the transferred business will distribute to the same general class of customers in the same areas. Equipment need no longer be transferred when a business is sold. (Amendment 48, Revised Ration Order 3; Amendment 58, Revised RO 13; Amendment 25, Revised RO 16.)

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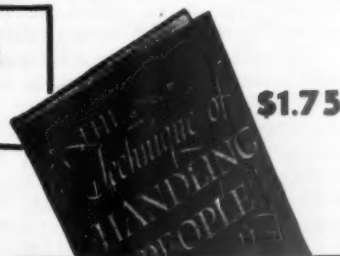
WALTER A. GIFFORD, who became president of A. T. & T. at forty, says about listening to opinions;

CHARLES E. WILSON, self-made president of General Electric, says about wanting to get ahead;

WALTER D. FULLER, who advanced from selling copies of the *Saturday Evening Post* to presidency of the Curtis Publishing Co., says about Big Ideas to get ahead;

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# LABOR

## Closing the Hole

War workers' flight from plants to line up peacetime jobs impels WMC to order more rigid enforcement of referral rules.

Reports of a baffling "evaporation" of already skimpy labor supplies in the Pittsburgh district and of a nationwide restiveness which is taking America's migrant war workers home by the thousands in quest of postwar job security—particularly from the Pacific Coast (BW—Oct. 7'44, p15)—have the War Manpower Commission worried.

• **To Tighten Up**—One result is an order which has gone out to all offices of the United States Employment Service directing staffs to tighten the WMC requirement of a certificate of availability as a prerequisite to employment of any worker who has moved into a new area.

The order, signed by Paul V. McNutt as WMC chairman, calls attention to the employment stabilization provision that no worker may be employed for any job in an area into which he has just moved unless he has a referral by the USES in the new area.

The order also puts workers on notice that before leaving one area, in which they are employed, for another, they should get in touch with the USES and obtain, if eligible, the necessary statement of availability.

• **Phantom Withdrawals**—The Pittsburgh situation is typical of what lies behind the order. The WMC recently reported that in a two-month period almost 2,000 workers vanished from district war plants, not including Selective Service withdrawals and those leaving in accordance with WMC procedure.

A third of one company's working force disappeared in one month and WMC said this group cannot be traced. All were adult, two-thirds were male, and one-third women workers. They did not report to the USES for referral to new jobs, and investigation at their homes showed that they had moved from the city.

Theoretically, they can not be employed, but WMC considered it unlikely that they had dropped out of the labor market.

• **Other Areas Affected**—The situation is not confined to Pittsburgh. In Maryland the number of out-of-state work-

ers dropped 43,000 in twelve months; in Los Angeles County the WMC reports loss of at least 6,300 workers monthly; the San Francisco "escape rate" is about 5,000 monthly. Other industrial centers indicate the same general trend.

Where are the workers going? A considerable number are dropping out to set up their own businesses, planning to be ready to cash in on the re-opening of private business after V-E Day. Many of these new businesses are sales agencies and service establishments.

Indicative of this is a Detroit report of a 9% gain in retail firms in the eleven months ended in June, 1944.

Other workers are returning to farms with a nest egg of wartime earnings.

• **Old-Timers Back**—Others are going back to their old jobs, which they left for higher pay in war industries. While St. Louis ordnance plants report alarming declines in labor forces, shoe factories outside the city tell of a growing number of old-timers back on their pay-rolls.

Many other workers are shopping around for peacetime jobs, and have asked USES for referrals, giving as a reason the need to prepare now for the security of their families against V-E

Day cutbacks. This group worries the WMC the least. Its movement can be controlled.

• **Working Somewhere**—Its real worry is the workers who fail to obtain releases from war plant personnel officers and who ignore the USES. It stands to reason, WMC believes, that most of these are going to work somewhere the others, if they are not being hired illegally, probably are taking the 60-day "holiday" which will make them free agents in the labor market.

## Round for Bridges

Longshoremen's leader wins court backing to retain the control of New Orleans local. Jurisdictional battle seen

Harry Bridges' International Longshoremen's & Warehousemen's Union (C.I.O.) has gained upper hand in the long-seething feud between left-wing and right-wing labor groups in New Orleans, but the fight isn't over.

Embroiled in the fight are the left-wing leadership of I.L.W.U. and a New Orleans right-wing group united behind Willie Dorsey, ousted Negro president of Local 207 of I.L.W.U. Guiding force in this group is the Rev. Jerome Drolet, militant prolabor, anti-Communist priest whose influence is



## SUNDAY SHOP SERVICES

"Associates" at Cleveland's Jack & Heintz, Inc., listen attentively to the inaugural program of Sunday church services—over the plant's public address system. The new half-hour recess for sacred music and sermons

is a standard feature for 8,000 night and early day workers at ten Jasco factories. Protestant, Jewish, and Roman Catholic services are provided on alternate weeks—at the behest of William H. Jack, company president, who often credits a "silent partnership with God" for his success.

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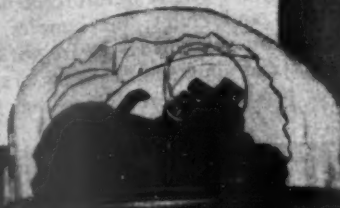
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strong in New Orleans (BW-Jul.14 p98).

• **Removal Stands—Bridges'** victory came when a civil court refused to order the I.L.W.U. to restore Dorsey to the local presidency, although the charge on which he was removed (misappropriation of union funds) was not substantiated in court (BW-Oct.9'43,p90).

Dorsey supporters criticized the decision as discriminatory in favor of Communist white men and against anti-Communist Negro, and an appeal to the Louisiana Supreme Court was being considered.

But it is far more probable that ultimately the Dorsey issue will be received not by the courts but in an open jurisdictional clash between the C.I.O. unions which for years have been sharply divided.

• **Aid for Dorsey—Solidly behind Dorsey in his New Orleans fight is Samuel Wolchok's United Retail, Wholesale & Department Store Employees union, involved once before in a showdown fight with the I.L.W.U. That dispute, in New York, was settled by direct intervention of John L. Lewis, then C.I.O. president in a decision dividing organizing territories (BW-Apr.13'40,p37).**

The U.R.W.D.S.E. entered the New Orleans fight when, early in 1943, Father Drolet importuned Wolchok to intervene in Dorsey's fight to hold together his warehouse workers—Dorsey had 800 of the 10,000 eligible warehousemen, most of them Negroes, many illiterate—and to prevent the I.L.W.U. from making capital of a highly fertile field for its left-wing program.

• **Divided by Mississippi—By the 1944 jurisdictional agreement, U.R.W.D.S.E. could organize warehouses east of the Mississippi River and I.L.W.U. west of it. Geographically, New Orleans is east, north, and west of the river, and the jurisdictional rivals have capitalized on this. More important, New Orleans is the key to the scarcely touched Gulf Coast warehouse territory.**

Wolchok designated Dorsey an international representative, and issued a charter for a local to admit pro-Dorsey workers in the twelve companies included in the I.L.W.U.'s Local 207.

• **Switch to Wholesalers—Both unions laid claim to representation in all companies included under the original I.L.W.U. charter of Local 207. When a contract expired at the Latellier-Phillips Paper Co., Dorsey swung its employees from the longshoremen to the wholesalers through National Labor Relations Board proceedings.**

Dorsey organized other small groups for the wholesalers, managed to exert enough unofficial control over his former local to keep its membership vir-

...tually intact and behind his leadership. His one objective, and that of the U.R.W.D.S.E., was to recover official leadership of Local 207, a first step toward severance of relations with the I.L.W.U. and affiliation with the Wolchok wholesalers.

**No Rough Stuff**—In other sections of the country the revolt might have been accomplished through roughhouse methods not uncommon to longshoremen and warehousemen, but Dorsey knew that in the Deep South such a direct technique would be fatal to the position of his predominantly Negro group.

Reliance had to be placed, instead, in the court action to overthrow the left-wingers from control of Local 207.

With that reliance fading, Dorsey and his followers now are looking even more to the guidance of Wolchok for the next step, which could come as an open break at the annual convention of the C.I.O. in Chicago next month—or just as easily as an outbreak of violence in the New Orleans warehouse district.

**First in New Orleans**—Behind the lead is a chain of events going back to 1938 when Bridges lost to an A.F.L. union an attempt to organize New Orleans longshoremen. He turned, instead, to cotton compress, wholesale grocery, and feed warehouse workers, and chartered Local 207, first C.I.O. union in New Orleans.

Dorsey was elected president, and for nearly five years was the local's mainstay and organizational director while Bridges directed his full attention to the



Willie Dorsey faces a tough battle to regain his office in the C.I.O. International Longshoremen's & Warehousemen's Union from which he was ousted by a left-wing faction.

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# PLYMOUTH

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Pacific Coast organization campaign and his personal fight against deportation.

• **A Lush Field**—In mid-1943, with the Pacific Coast job pretty well cleared up, Bridges turned his attention to Local 207. The Gulf Coast had assumed new importance with the war and was a lush field for organizing.

A trusted Bridges lieutenant, Howard Goddard, was dispatched to New Orleans, with orders to take over, and to press for expansion of the I.L.W.U. His first move was to oust strongly right-wing Dorsey and, to make the action legal, to have Local 207 placed under a receivership. Goddard was named administrator by the court.

• **Suit Dismissed**—Dorsey sued for reinstatement, but because of the receivership his suit was thrown out of court. However, a one-year time limit was set on the receivership and the court specified that at the end of that time the local officers were to be restored to control of Local 207.

When the year ended on Jan. 1, 1944, the Goddard clique refused to surrender the local to Dorsey, and the injunction action was instigated. Hearings were delayed until July 5, then July 14, then Oct. 10, and were finally held Oct. 17, when, after a five-hour session, the I.L.W.U. was upheld.

## MELINKOW COMES EAST

The National Labor Bureau, private research organization headed by H. Melinkow which has been active since 1920 as economic counsel for labor unions on the West Coast (BW—Oct. '37, p.46), is observing its 25th year of work with expansion into the East through a branch office in New York.

Scarcely known outside the Pacific Coast territory in the past, the bureau has been exerting influence on the national labor scene for many years as counsel, adviser, and representative for some 600 labor unions.

At its principal offices in San Francisco the bureau maintains a negotiating and arbitration staff to deal with unions and employers, a research staff which backs up negotiators and arbitrators with the data needed in the presentation of cases, and an audit division (headed by a certified public accountant), which is principally occupied in making current and periodic audits of books of unions which are clients of the bureau.

Services of these three groups are available at any time to the active clients, who pay monthly retainers, or to clients in special cases, on a fee basis.

In addition to San Francisco and the new bureau in New York, offices are maintained in Los Angeles, Seattle, Portland, Vancouver, B. C., and Chicago.



# From the Bar-X Ranch to a Kitchen Range

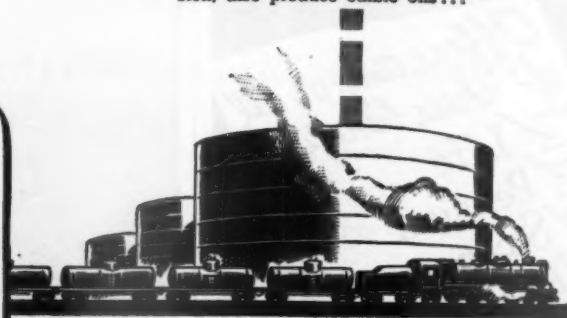


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and—more businesses have chosen Aetna Group Plans than any others.

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INSURANCE COMPANY**

FOUNDED 1850

HARTFORD, CONNECTICUT

## Wire Polls Set

NLRB schedules seven elections among 60,000 workers on Western Union's payroll. The choice is C.I.O. or A.F.L.

Western Union's 60,000 employees in 19,000 offices throughout the country will vote within 90 days in seven collective bargaining elections to determine whether they will be represented by the Commercial Telegraphers Union (A.F.L.) or the American Communications Assn. (C.I.O.).

• **NLRB Polls**—The elections will be held in each of six geographic divisions of Western Union and in the company's home office in New York City. The National Labor Relations Board took the problem under advisement last April after 64 days of testimony.

The board's decision supported the recommendation of Samuel H. Jaffe, trial examiner, rejecting an A.F.L. proposal for one nationwide election, and a C.I.O. request for more than 100 elections (BW—Jul.15'44,p90).

• **Date of Merger**—Under the election order, voting will be restricted to those employees on the company's payroll immediately following Oct. 7, 1943, date of the Postal Telegraph merger with Western Union.

The 100-unit proposal was rejected to avoid a "crazy quilt" election, while

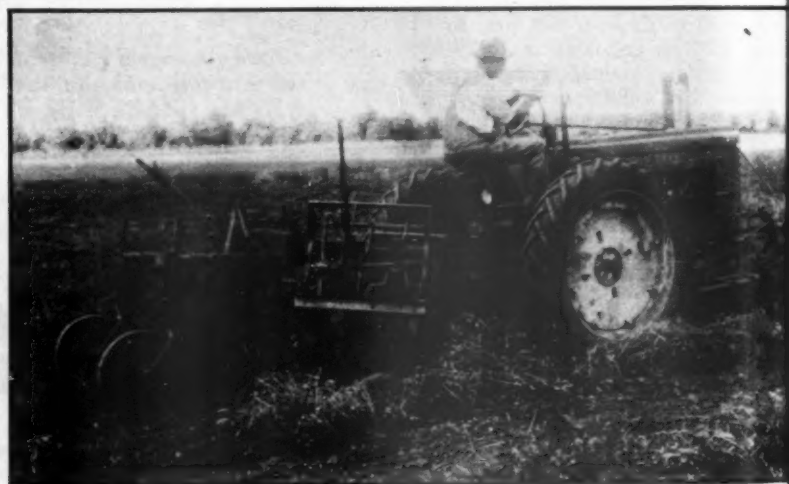
the A.F.L. plan was turned down by the board majority because the time since the merger has been too short and conditions "too unsettled and abnormal . . . to declare now as most appropriate a unit which by its nature tends to finality."

• **Reilly Dissents**—A dissenting opinion written by Gerard D. Reilly contended that a prior NLRB decision in a Postal case had been based upon the one-unit plan and favored the A.C.A., and that the seven-election order is against the "policy of the Wagner act not to promote dual unionism in the same field."

During the period while the election problem was under consideration an unusual condition has existed in which employees in the same offices and doing similar work were under conflicting labor agreements with different methods of computing seniority, different wage scales, different hours of work, and different vacation and pension provisions (BW—May6'44,p107).

• **On One Payroll**—This was the result of the merger in which Western Union's A.F.L. members, working under a maintenance-of-membership contract, and Postal Telegraph workers under C.I.O. union shop agreement were united into one payroll group.

The resulting disputes and conflicts recently led the A.F.L. union to threaten a nationwide strike vote in the industry unless the NLRB speeded its decision. C.I.O.'s membership in the industry retaliated with a renewal of its no-strike pledge.



## DIGGER AND SHAKER

Getting field trials by the U. S. Dept. of Agriculture is a new peanut harvesting machine designed to eliminate tedious hand labor and thus cut costs. Driven by one man, this tractor-mounted digger cuts the taproots and

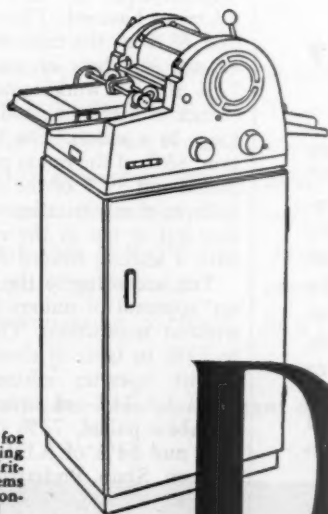
turns up the goobers in two rows during one pass. Knives similar to those on bean harvesters do the cutting while a rake arrangement shakes soil from the peanuts and sets them in windrows for curing. The machine is still in the experimental stage hence is not in production.

## This man is a Business Systems designer!

This is Jim Chestnut. For twenty-five years he has been designing Ditto Business Systems—fitting them to particular and peculiar requirements. Mr. Chestnut is typical of Ditto's large staff of field executives—men who *know* how to design and apply Ditto Business Systems to fit *your* business. There is one of these men in your vicinity. It will pay you to—



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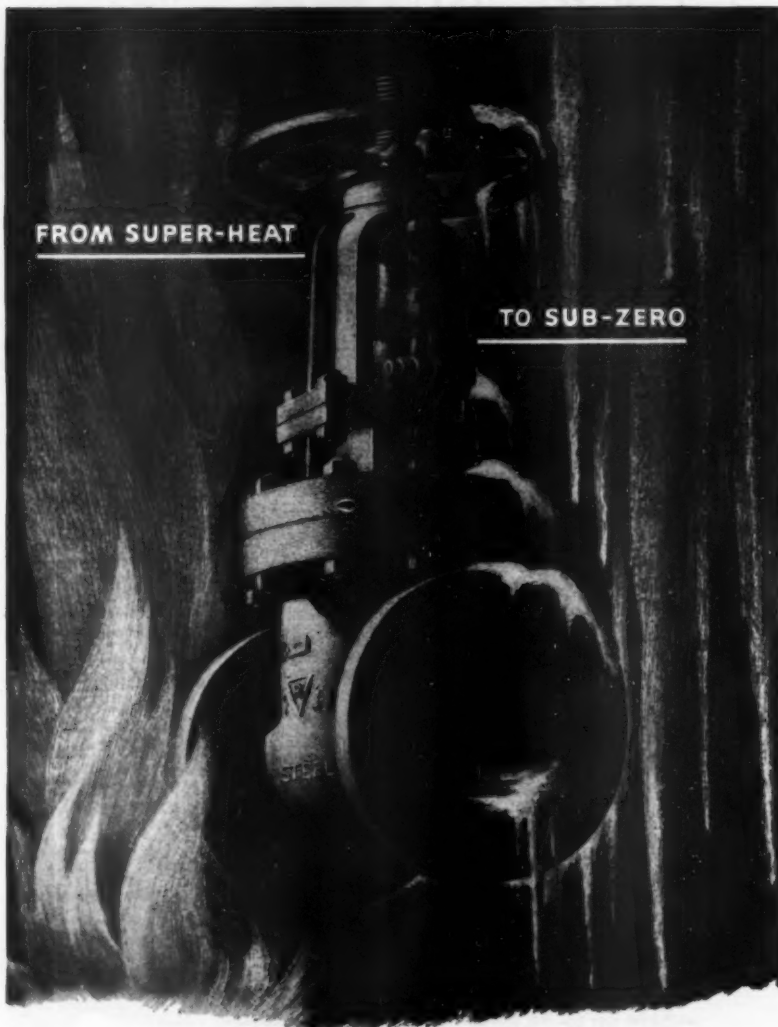
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# DITTO

*Business Systems*





FROM SUPER-HEAT

TO SUB-ZERO

## WHY ARE SOME VALVES MADE OF STEEL?

*Reading-Pratt & Cady Answers Question:*

Most valves are made of brass or iron. But there are two reasons why some are made of steel. • One reason is temperature. Above 500° Fahrenheit, brass valves go soft and iron ones crack. At sub-zero temperatures, valves of these two metals do not always give satisfactory service. So for use at very high or very low temperatures, Reading-Pratt & Cady Division of ACCO makes valves of steel. • Another reason for using steel is safety. In case of fire, for example, brass and iron valves may melt or crack and release inflammable fluids or gases. But valves made of steel will stand the heat as long as the pipes and tanks. • A full line of steel valves—in addition to those made of iron and bronze—is manufactured by Reading-Pratt & Cady Division. Like all Acco products, they are essential in peace, vital in war.



*In Business for Your Safety*

## AMERICAN CHAIN & CABLE COMPANY, INC.

BRIDGEPORT, CONNECTICUT • Aircraft Controls, American Chain, American Cable Wire Rope, Campbell Cutting Machines, Ford Chain Blocks, Hazard Wire Rope, Manley Garage Equipment, Maryland Bolts and Nuts, Owen Springs, Page Fence and Wire, Reading Castings, Reading-Pratt & Cady Valves, Wright Hoists, Wilson "Rockwell" Hardness Testers. • In Canada—Dominion Chain Company, Ltd. In England—The Parsons Chain Company, Ltd., and British Wire Products, Ltd.

## Unions Preferred

Bulk of factory workers favor unions, according to survey, but want secret strike vote and ballot at closed shop.

American factory workers foresee considerable unemployment after V-E Day and look, at present, primarily to government, secondarily to company management, and last to union leadership for solution of the problem.

That's one key finding in a survey among 17,000,000 workers in manufacturing industries published in the October issue of *Factory Management & Maintenance*, a McGraw-Hill publication.

• **Independent Survey**—Conducted by the Opinion Research Corp. of Princeton, N. J., the survey indicates that the average worker is strongly pro-union, gives his union leaders a high degree of confidence, believes a worker's best chance for a good living lies in union membership, and credits unions with gains in wages, working conditions, and job protection.

But it also indicates that he wants important union reforms. He wants to know where his union's money goes, and he wants the right to vote secretly before any strike is called. He also believes that many workers join unions under some sort of compulsion, even though they may feel that it's good for them, and he has a coolness toward the closed shop as well as toward maintenance of membership.

• **Unions Favored**—The survey indicates that 68% of the cross-section of workers are members of unions, and that 72% think a workingman has a better chance of making a good living if he belongs to a union. On the latter question, 88% of the union people who were polled and 39% of the nonunion voted in favor of unionization—indicating that four out of ten in the nonunion group have a leaning toward organization.

Yet, according to the poll, the workers' approval of unions is by no means without reservation. They voted 77% to 23% in favor of changes in the way unions operate; reforms were advocated by 74% of independent union members polled, 72% of C.I.O. members, and 64% of A.F.L. members.

• **Open Shop Preferred**—On the four common types of union contracts, the workers voted as follows:

For the open shop, in which a worker does not have to join a union in order to get and hold a job—39%.

For a union shop, which allows anyone to be hired but requires that he



## U.S.F.&G. SALUTES THE HOOSIER STATE!

*Indiana's Beautiful* state capitol at Indianapolis . . . constructed largely of native Indiana limestone . . . is typical of the stately buildings that grace the Hoosier State. U.S.F.&G. is proud that its contractors' bonds helped assure construction of many of these imposing public works.

## Indiana Builds to Last!

"PERMANENCE" is the word for Indiana. You can see it in her massive public buildings . . . in her rich farmlands, kept black and fertile generation after generation . . . in the stark strength of the Calumet region, one of the world's greatest industrial centers. Crossroads of America, Indiana is a state that looks to the future, a state that builds to last!

With this determination to build

strongly and well . . . this resolve to forge ahead in unchecked progress . . . it is only natural that Indians should seek certainty in insurance. To serve this insurance-minded state, U.S.F.&G. requires a large branch office at Indianapolis . . . agency offices in 197 cities and towns throughout the state. Thus nearly every community in Indiana is served by a U.S.F.&G. representative.

This complete U.S.F.&G. coverage is not restricted to Indiana alone. Few communities in the United States, its territories, and Canada are without the services of a U.S.F.&G. agent. So wherever you are and whatever you do, look to your local U.S.F.&G. representative for guidance in all casualty insurance and bonding problems. Consult him as you would your doctor or lawyer.

Consult your insurance agent or broker



as you would your doctor or lawyer

# U.S.F.&G.

## UNITED STATES FIDELITY & GUARANTY CO.

*affiliate*

FIDELITY AND GUARANTY FIRE CORPORATION  
HOME OFFICES: BALTIMORE 2, MD.



**THE YOUNGSTOWN  
SHEET & TUBE CO.**  
enlists the aid of

# HYGEAIRE

Reg. U. S. Pat. Off.

ULTRAVIOLET GERMICIDAL RADIATION SYSTEM

## IN THE BATTLE AGAINST AIRBORNE BACTERIA

● Disease germs that ride the dust particles always present in air give many an employee an enforced vacation—at your expense.

Large organizations, like this forward looking steel company, whose smooth operation depends upon the co-ordinated efforts of many employees, cannot risk unnecessary absenteeism. They find it expedient to employ the latest scientific method developed to minimize the possibility of disastrous cross-infection wherever large groups of people must work together.

HYGEAIRE system produces at low current cost and accurately distributes ultraviolet radiation of such wave length that it is lethal to 85% of the disease germs that are carried by convected air into its scope. Yet, when properly installed, in the patented HYGEAIRE reflector-fixture above eye level, it is entirely harmless to room occupants.

Check the list below. Somewhere in the operations for which you are responsible there is a place where HYGEAIRE system will save many times its cost.

*For substantiation of these claims, write or 'phone your nearest General Electric Supply Corporation or Graybar Electric Company office (located in all principal cities).*

### HYGEAIRE SYSTEM PROTECTS wherever people congregate

Barracks  
Board Rooms  
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Dairies  
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Factories  
Food Processing Plants  
Hospitals  
Hotels  
Invalid Rooms  
Laboratories

Laundries  
Lavatories  
Libraries  
Municipal Services  
Nurseries  
Packing Plants  
Passenger Coaches  
Pullmans  
Purchasing Offices

Radio Studios  
Reception Rooms  
Restaurants  
Sanatoriums  
School Rooms  
Tool Rooms  
Waiting Rooms  
Wash Rooms

**AMERICAN STERILIZER COMPANY**

ESTABLISHED 1894

World's Largest Producer of Hospital and Clinical Sterilizers



join the union after getting the job 36%.

For a closed shop, which requires that a person join the union before he can be hired—14%.

For maintenance of membership, which provides that members of a union must be fired if they fail to keep their dues paid up—5%.

The remaining 6% expressed no opinion.

● **Credit for Wages**—Unions are given credit for higher wages, better working conditions, and job protection by 66% of the union members polled, while 13% of them say they have received "no particular benefits" from union memberships.

Higher wages and improved job standards likewise are credited to unions by 39% of the nonunion workers. Another 10% of this group believes that unions "have protected labor in regard to hours," and a like percentage of the nonunion people say unions have "improved working conditions, eliminated the sweat shop, and forced healthier, safer working conditions."

● **No. 1 Job**—Protection of present wages is considered the most important objective for unions in the future, by both union and nonunion workers polled, with the issue of guaranteed annual wages, lately advocated by several of the largest C.I.O. unions, second for both groups.

## Wages Analyzed

Dept. of Labor report on 1943 payrolls shows one-third of all workers got \$24 or less for a 40-hour week.

Dollar-and-cents importance of prospective loss of overtime payments to the nation's wage earners is shown by a report, just issued, that in 1943 overtime premium pay under the Fair Labor Standards Act of 1938 amounted to well over \$2,000,000,000.

● **Earnings Cited**—At the same time the report supplied ammunition to backers of a proposal by Sen. Claude Pepper of Florida, for a basic 65¢ hourly wage rate as a minimum under the National War Labor Board (BW-Sep. 9'44, p104).

The report by L. Metcalfe Walling, administrator of the Wage & Hour Division of the U. S. Dept. of Labor, reveals that "one-third of all workers outside agriculture and domestic service (the lowest paid wage earner groups), including those under the act and those outside its protection, got \$24 or less for a 40-hour week last year despite





# RCA

## 25 Years that Created a New World of Radio 1919-1944

From 1919 to 1944 . . . RCA has pioneered in the science of radio and electronics . . . from world-wide wireless to national network and international short-wave broadcasting . . . from electron tubes to electron microscopes and radiothermics . . . from the hand-wound Victrola to the automatic radio-phonograph . . . from television to radar.

Twenty-five years of service to the nation and the public have made RCA a symbol of achieve-

ment and progress . . . RCA is a monogram of quality in radio-electronic instruments and dependability in communications throughout the world.

From the First World War to the Second, RCA developed and expanded its "know-how" in skilled engineering and production so vitally needed to meet the demands of war . . . these qualities will be reflected in the peacetime products of RCA.

### RADIO CORPORATION OF AMERICA

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RCA LEADS THE WAY.. In Radio.. Television.. Phonographs.. Records.. Tubes.. Electronics



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IN  
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## Denoting long Experience in Safety ... of Golden Value to you

This small gold button, worn by the many M.S.A. men and women who have been with us from ten to thirty years, signifies a very special set of qualifications with which you are served. The kind of training, for instance, that can only be obtained by long years of continuous association with the leading company in the field of safety equipment manufacture... complete

knowledge of our products and their applications... thorough conversance with safety needs as you encounter them... intelligence... skill... responsibility!

M.S.A.'s veterans—in our research, engineering, fabricating, field and office divisions—wear their Service Badges with pride: are proud of their Company's ability to meet your most particular requirements.



**M.S.A. Products Include:** Breathing Apparatus... Inhalators  
... Approved Dust Respirators... Masks of all types...  
Gas Indicators... Gas Detectors... Safety Goggles...  
Protective Hats and Caps... Edison Electric Cap Lamps  
... Safety Belts... Safety Clothing... Dust Instruments  
... First Aid Equipment... Protective Hand Creams

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BRADDOCK, THOMAS AND MEADE STREETS, PITTSBURGH, PA.

District Representatives in Principal Cities

supposedly universal high wages  
• **Less Than \$40 a Week**—While the 1943 total of wages was "the greatest in our history," Walling commented that the 21,000,000 workers covered by the act "made an average of less than \$40 a week, even including overtime premium pay."

Considerably more than 4,000,000 workers received less than 40¢ an hour or less than \$16 for a 40-hour week, 1943, the report shows. Of these 1,000,000 were in agriculture and domestic service, and 3,000,000 in industry and retail and service trades outside the scope of the act.

• **Rely on Overtime**—Another 3,000,000 workers not in agriculture or domestic service made between 40¢ and 50¢ an hour, or \$16 to \$20 a week, and further 3,500,000 received from 50¢ to 60¢ an hour, or from \$20 to \$24 a week, the report shows.

Union leaders, in their demands for higher pay rates, have asserted that workers have been forced to rely on overtime to balance their home budgets. Return of work schedules to pre-war levels by general elimination of overtime, expected after V-E Day, will be tantamount to a 13% payroll slash the unions contend.



### DOLLAR DISCIPLINE

Wildcat strikers who tied up heavy-duty tire production three days last week at U. S. Rubber Co.'s Detroit plant discovered that their walkout was expensive to themselves as well as to the war effort. The 500 were fined \$12.50 each by Sherman H. Darrymple (above), president of the C.I.O. United Rubber Workers of America, under threat of expulsion and consequent loss of their jobs. Darrymple has demonstrated before (BW—Jan. 15 '44, p. 87) that he won't tolerate deviations in wartime from U.R.W.A.'s no-strike pledge.

## Job Test Fought

United Steelworkers' local threatens to strike over written examinations for the grading of Steel & Wire Co. workers.

The American Steel & Wire Co.'s use of written or oral tests in grading mechanics and maintenance men brought a strike threat from members of the C.I.O. United Steelworkers of America in the company's Cleveland plant this week.

**C.I.O. Officials Object**—Notwithstanding the fact that the issue has twice gone to arbitration at the company's Monaca (Pa.) plant, and that the arbitrators' approval had been upheld by the regional war labor board, the steelworkers' local declared its intention of asking a strike vote on the question. The local's action brought prompt disapproval from district and national C.I.O. officials, and indications were that peaceful settlement would be worked out.

**Foreman Takes Part**—While the principle of grading carpenters, electricians, machinists, and others not engaged on piecework is universal, American Steel & Wire personnel experts say they have improved upon the formal (or informal) observation of foreman or superintendent usually relied upon to classify a worker.

The plan involves objective measurements as well as subjective appraisal.

Efficiency, versatility, and accuracy, among other things, are, as is customary, graded by the foreman according to his judgment. Likewise an appraisal of personal characteristics, energy, dependability, initiative is left to the foreman.

**Balk at Written Test**—But in addition to these, a written test is given upon craft skill, involving blueprint reading, knowledge of tools, properties of materials, safety rules, other subjects related to mechanical competence.

The workers balked at this point, charging that the examination is an "I.Q." test unrelated to the ability of a worker to do his job.

**May Have Second Try**—Some disputed points have been conceded in previous discussions. The company, for example, acknowledged the unfairness of the test if given to an old-timer who never learned to read and write English. He may have the test orally. Any worker may have the test repeated, if he thinks failure to understand resulted in a poor showing.

A machinist helper, as an example of the grading system, may be rated A, B, or C, and paid, accordingly, 96¢, 88¢,

## Design for Living...Oregon Style

*Oregon people, surrounded by vast potential wealth, look to an unlimited future!*



● We've worked out our own design for living in Oregon—with the emphasis on "living". Here in this area, rich in natural advantages, our people have more opportunity for individual endeavor.

The result is that *all* Oregonians—businessmen, workers and farmers alike, earn a good living—far above the national average. This financial security was proved in peacetime by our high rate of home and automobile ownership. It is proved again in wartime by the fact that we lead the rest of the country in the per capita purchase of E Series War Bonds. This backlog of savings will provide a rich market for manufactured goods in the postwar world.

Oregon with its vast natural wealth invites business and industrial leaders to investigate the tremendous advantages of locating here.



ONE NEWSPAPER ALWAYS LEADS—IN OREGON IT'S THE OREGONIAN

# The Oregonian

The Great Newspaper of the West

PORTLAND, OREGON

REPRESENTED NATIONALLY BY PAUL BLOCK & ASSOCIATES





"Ah, ha! The new bedroom came, I see!"

Yes, after the war, it may be possible for bedrooms, recreation rooms (even *bathrooms*) to be delivered and erected in a few hours' time... as additions to prefabricated homes. That's just one of the advantages of these attractive, minimum-cost dwellings.

In their ready adaptability to a family's changing needs, "pre-fabs" provide a new standard of living comfort. And in this achievement, copper and its alloys are destined to play a basic part in post-war days.

For no other material offers, at reasonable cost, the same conveniences that copper has brought to modern living—the same protection against weather and termites, the same assurance of rust-free water,

the same promise of more economical heating.

Enduring, rust-proof, corrosion-resistant, easy to bend—such characteristics as these make copper so *right* for so many promising young industries. In your own post-war planning, don't overlook this ageless metal... or the fact that Chase is already busy working with manufacturers in the development of a number of the more practical things to come. Chase Brass & Copper Co. Incorporated, Waterbury 91, Connecticut—Subsidiary of Kennecott Copper Corporation.

For your convenience, Chase maintains 25 sales offices (19 with warehouse stocks) in principal manufacturing centers throughout the country.



or 82¢ an hour. He may be graded journeyman mechanic, A, B, or C, and paid \$1.20½, \$1.12½, or \$1.04½ an hour.

The system is in use in all American Steel & Wire plants, and the management is hopeful that the unions will accept it eventually as an equitable answer to a difficult problem.

## INDEPENDENTS CLEAN HOUSE

Weakest point in the armor of independent unions in their struggle for existence and expansion is the suspicion, enthusiastically circulated by the C.I.O. and A.F.L. rivals, that they are dominated by employers. Sensitive to that suspicion, the Confederated Union of America voted last week for a house cleaning among the independent unions which have swelled its membership to almost one million in three years.

Meeting in Indianapolis in its second national convention this year (BW Mar. 11'44, p. 99), the C.U.A. set up a five-man board to review evidence against suspected affiliates and to ouster machinery in motion for those which fail to demonstrate that they are unfettered. One union—the Western Electric Employees Assn., Point Breeze, Md.—was bounced several months ago; another—the Weirton Independent Union, Weirton, W. Va.—is under investigation.

With delegates representing 57 of the 82 C.U.A. affiliates in attendance, the convention endorsed President Roosevelt for a fourth term, demanded revision of the Little Steel wage control formula, and heard the pledge of Matt Smith, C.U.A. president and secretary of the Mechanics Educational Society of America, that he will continue to press for additional independent union representation in governmental labor tribunals.

## GI'S GET UNION VOTE

When, in several recent collective bargaining election losses, unions protested that members on military leave were not allowed to vote, management had a ready comeback: Union members in the services have not been allowed to vote in the elections of local and international unions.

Local 338 of the Retail, Wholesale & Chain Store Employees Union (C.I.O.) in New York is pioneering in a plan designed to curb that argument.

When the local holds its triennial election in November, all members of the local in the armed forces who were in good standing when they left for service will be allowed to vote by mail.

Ballots will be sent to them as soon as nominations are completed, and will be so prepared that the service voter can express himself freely and secretly.

# THE WAR AND BUSINESS ABROAD

BUSINESS WEEK

OCTOBER 28, 1944



**The showdown with Hitler in western Europe is not far away.**

As October rain and mud give way to clearer days and freezing temperatures, look for a massive Allied offensive aimed at the vital Rhine-Ruhr industrial zone. Crossing of the Rhine and capture of this compact, munitions-making (60% of the German total) area spells doom for the Nazis.

Without it, Hitler's armies cannot fight very long. And once it falls, there is no effective barrier between the mechanized, heavily armored Allied forces and Berlin.

**Quick windup of the formal battles against the Nazis—before the end of 1944—hinges on the success of the impending battle of the Rhine.**

**The specter of starvation and want again haunts Germany.**

The rapid advance of the Russians across the rich Hungarian plain deprives the Reich of its last great breadbasket.

Greece can no longer be stripped of its tobacco, olive oil, and fruit.

Bulgaria and Rumania have ceased to provide wheat, rye, corn, and vegetable oils.

And months ago the last important supplies of wool rode into Germany from the Balkans on a high freight priority.

Germans are likely to fight the last battles of this war on a thin diet of potatoes and Nazi fanaticism.

In contrast to the Germans' situation, oil for the Allied forces flows in a steady flood through pipelines laid across France at a speed that keeps pace with the offensive; supply stations are often less than 20 miles behind the front lines.

**Toyko is stunned by the size of the MacArthur forces already successfully landed and intrenched in the Philippines.**

Almost simultaneous British attacks on the Nicobar Islands, in the Indian Ocean near the western tip of Sumatra, were a shrewd move because the Japanese had expected the blow would fall in the larger Andaman Islands and had concentrated their defenses accordingly.

**You should anticipate further, quick moves to seal off the Nipponese supply route through Singapore Straits to Burma.** Such a move would automatically isolate the Japanese forces in Burma and pave the way for an early Allied campaign to secure badly needed oil supplies in Sumatra and Borneo.

**Netherlands East Indies oil is sufficiently pure to be usable without refining as ship fuel.** As soon as Pacific supply ships of the Allies can refuel in the Far East, their outbound fuel loads from the U. S. can be halved and military cargo upped commensurately.

**For economic as well as military reasons, Nippon worries about MacArthur's return to the Philippines.**

As conquests in southeast Asia slip from Tokyo's control, the homeland faces human and industrial starvation.

**Burma, Thailand, and French Indo-China** provide the rice which feeds Japan's armies in the field.

**Malaya, Sumatra, and Indo-China** provide Tokyo's entire rubber supply, for Japan has no synthetic rubber industry of any consequence at home.

More than 80% of Japan's oil comes from southeastern Asia (the

# THE WAR AND BUSINESS ABROAD (Continued)

BUSINESS WEEK

OCTOBER 28, 1944

rest comes from tenuously held Sakhalin Island or from synthetic plants in Manchukuo and at home).

While the Allies will be reclaiming the world's greatest tin reserves—in Malaya and the Netherlands Indies—**Japan will be losing wartime sources of 85% of its tin, 90% of its iron ore, 85% of its chrome ore, 98% of its sugar, and 60% of its hemp.**

Manila is the objective of the U. S. drive in the Philippines. Following this week's big naval battle with the Japanese in Philippine waters, the Philippine capital and its important naval base should easily be occupied by the end of the year.

Though the threat from the south is reaching crisis proportions, Tokyo cannot relax its defenses in the north.

New York newspapers last week carried advertisements by construction companies for civilian workers—ranging from carpenters to sewer builders—to work in the Aleutian Islands.

Two-year contracts are offered, with pay to start when the worker leaves New York, and applications are being handled by U. S. Employment Service offices.

**Look for a tightening of price controls and export licenses to meet an annoying situation** which is developing with the prospect that the war in Europe will soon be ended.

Wealthy European refugees have stirred a fresh wave of public antipathy in New York where they are accused of trying to buy up all kinds of goods—from electric refrigerators to automobiles—at better than list prices for quick export, as soon as possible, to their liberated homelands. Idea is to get in fast and make a cleanup, carpetbagger style.

**Don't overlook several significant new developments in Mexico which have a special bearing on U. S. business.**

It will soon be announced that the Armour Research Institute is being retained by the Mexican government to make a **complete survey of the country's manufacturing facilities, with recommendations for their modernization and adaptation to local and export needs.** Armour has recently completed a similar job in Argentina.

Also encouraging to U. S. businesses interested in the Mexican market is the announcement that the American Chamber of Commerce in Mexico City has made available English editions of **complete reports on Mexico's most important commercial and industrial laws; prices range from \$1.50 to \$17.**

**Moscow's prompt settlement of International Nickel Co.'s claims in the Petsamo nickel mines, already taken over by the Russians, is significant because:**

(1) The deal has been completed before any United Nations conference considers or approves Russia's claims to northern Finland.

(2) Neither Canada (home of INC) nor International Nickel has protested or delayed settlement.

(3) Agreement specifies payment (\$20,000,000 in six annual payments) in U. S. dollars, again indicating Stalin's preference for dollars over British pounds in all international settlements.



# Heat On in Spain

Open warfare threatens Franco regime, already beset by loss of land link with Reich. Spain is eager for U.S. goods.

Franco Spain kept an embarrassed silence this week, but from Hendaye to Perpignan along the closed frontier came ominous tales of open warfare between the Generalissimo's troops and remnants of civil war Republican units aided by Spanish Maquis drifting home from France.

• **New Question Mark**—It began to appear that sundering by Allied armies of Franco's overland connections with German Europe, coupled with termination of preclusive buying of critical materials by British and American agencies, unbalanced the dangerously precarious equilibrium of the profascist regime. The fugitive guerrilla bands, which have long harassed government army patrols and disrupted transportation, were again in action despite their frequent official "liquidation."

For eight years—since the beginning of civil war—Spain has been virtually cut off from American business. Severing of land connections with the Reich seemed to herald an opportunity for American traders to reenter the Spanish market, and long-standing Spanish orders for U. S. equipment appeared to be approved by Washington. Now another question mark stands in the way: Is the Franco government about to fall, and will U. S. supplies be used to keep it in power?

• **Machinery Banned**—Only within the last few weeks had American firms begun to renew their contacts in Spain. A few have even sent representatives to Madrid. Where we go from here is anybody's guess.

Ostracized Spain has long been eager to reenter the American market. For more than a year Madrid has held fat contracts before WPB without a nibble. And even when Sweden snatched a \$500,000 order for power equipment earlier this year, Washington stood firmly on the line it had laid down: to sell no heavy machinery to Spain while U. S. industry was producing for war, and to limit strictly all exports to Spain as long as part of Spanish production aided Germany.

• **Competitors Alert**—Blame fell on business as well as Washington. Spanish businessmen complain that American firms lost contact with their representatives in Spain and failed to replace blacklisted agents.

Meanwhile Americans in Spain were

shown evidence of the alertness of competitors—British and neutral—who have been hustling contracts despite and because of the war. Britain, they point out, has maintained token shipments of even such items as new machinery and machine tools, and has extended its commercial connections in preparation for a full-blown trade drive when controls end.

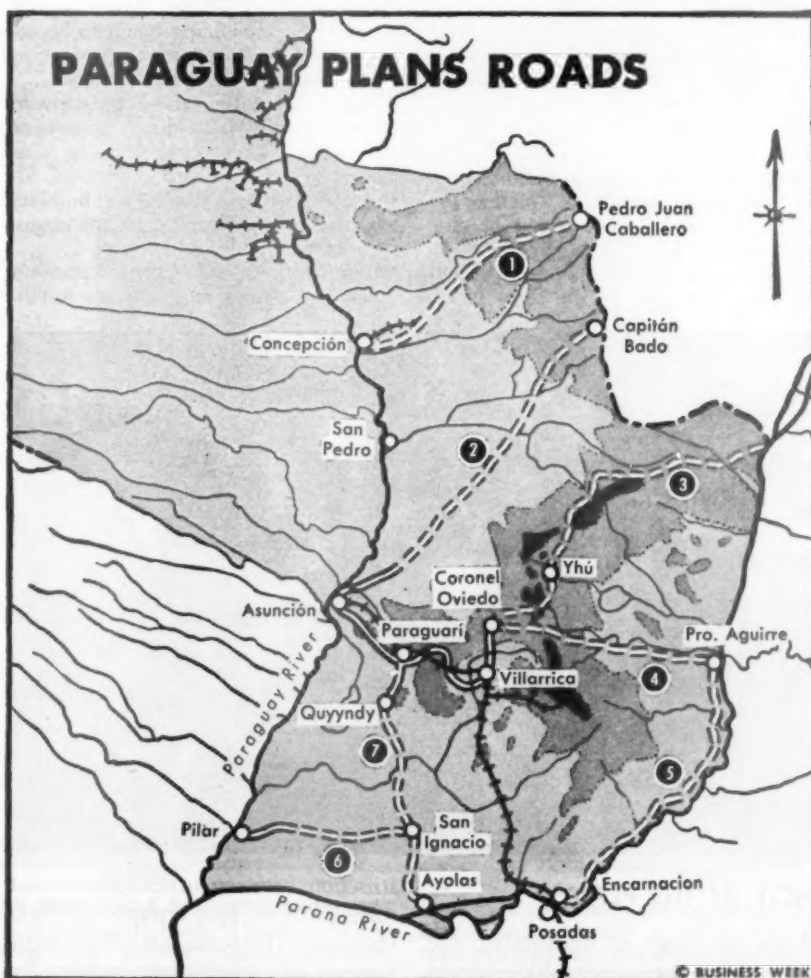
• **Orders Shunned**—An example of Spain's hunger for foreign equipment is provided by the plans of the Instituto Nacional de Industria for development of hydroelectric power facilities. The eight-year program is at least five years old now, but the wartime accumulation of \$30,000,000 supplied by American preclusive buying has lent reality to the plans, and initial orders for expanding five principal power stations have been on the books for a year with no takers other than Sweden. Available business

runs to around \$5,000,000 in this field alone.

That sum is for one year's building and is closely parallel to spending of the industry before the civil war. International General Electric Co., in line for the business, has sent a representative to Madrid to handle details at that end pending approval of the contract by WPB in Washington.

• **Future Uncertain**—More important for American business—likely to profit from further buying in related fields and from the effects of increased economic welfare in Spain—is the question-mark which veils the future. Spanish power firms are unequivocally opposed to further expansions outlined by Madrid unless government controls are relaxed. Some would like a change in government.

Since 1936 there has been no upward revision of power rates despite the obvi-



Periodically, Paraguay resumes work on the seven roads in its long-range program. Last month, when low water on the Paraguay River nearly isolated Asuncion—throwing the supply bur-

den on the only railroad—and cut off Concepcion from the south, work was speeded on three of these roads: northeast (2) and southeast (7) from Asuncion, and west (6) from Pilar.

ous increase in labor and materials costs and an even more spectacular and decisive increase in the cost of supporting the Falange syndicate.

● **Investors Wary**—Suspicion of government policies and fear of its collapse by other than peaceful means are a real impediment to business development in Spain and to foreign interest in investment there. Not all the loose ends left by the civil war have been tied in; transfers of funds for payment of commercial debts have recently been permitted but arrangements for interest and dividend payments have not yet been made (BW—May 27 '44, p114).

Spain's power system has never fully recovered from the effects of the civil war and is in need of basic overhauling. The \$5,000,000 budget for purchases of foreign equipment is an integral part of a one-year plan involving domestic expenditures of another \$15,000,000 on construction.

● **Power Plans Lag**—Since 1932, power installations have increased only from 1,256,000 kw. to 1,577,000 kw., whereas, through better utilization of facilities, kilowatt-hour production has grown from 2,800,000,000 to 4,156,000,000. Long-range plans envisage an 8,000,000-kw. increase in capacity, but preliminary orders are only for equipment to raise capacity by 1,130,000 kw.

Biggest project on the development agenda is the dam on the Jugar River,

planned by the Hidroelectrica Espanola, to hold 750,000,000 cu. meters of water and produce 400,000,000 kwh.

Pending clarification of the political situation in Spain, however, chances are that the long-range electrification program will continue to be only a blueprint plan. Washington agencies and private firms may hesitate to assume commitments with a government engaged in military action to retain its authority.

## Hotels for Brazil

Active tourist promotion will accompany building of new accommodations for visitors as shipping controls ease.

SAO PAULO—Brazil is getting set for a big hotel-building boom to be accompanied by a systematic promotion of the country's tourist attractions.

● **Means More Imports**—For American business this means a sharp increase, as soon as production and shipping controls ease, in Brazilian imports of fittings, furnishings, and other building materials which Brazil does not manufacture in volume.

For Brazil it will mean stepped-up dollar and pound income from Ameri-

can and British tourists to help balance the normally adverse trend of international payments.

● **Tourist Club Gets Busy**—Until a few years before the war, there was no serious effort to interest the world in the beauties of Brazil. Founding of the Tourist Club in Rio de Janeiro and export of travel films, however, resulted in more frequent calls by British and American tourist liners before the war.

In 1937, Rio had 41 hotels with only 3,000 rooms and these averaged only 70% occupancy.

● **War Brings Visitors**—With the war, a number of factors quickly made hotel accommodations scarce:

(1) Thousands of wealthy European refugees flocked to Rio and Sao Paulo;  
(2) Local residents, accustomed to foreign travel, spent vacations at home;  
(3) Americans, cut off from Europe, visited Brazil;

(4) U. S. military personnel, economic missions, commercial buyers flocked to Brazil;

(5) Businessmen, farmers, and mine owners made frequent visits to the federal capital where war control agencies centered.

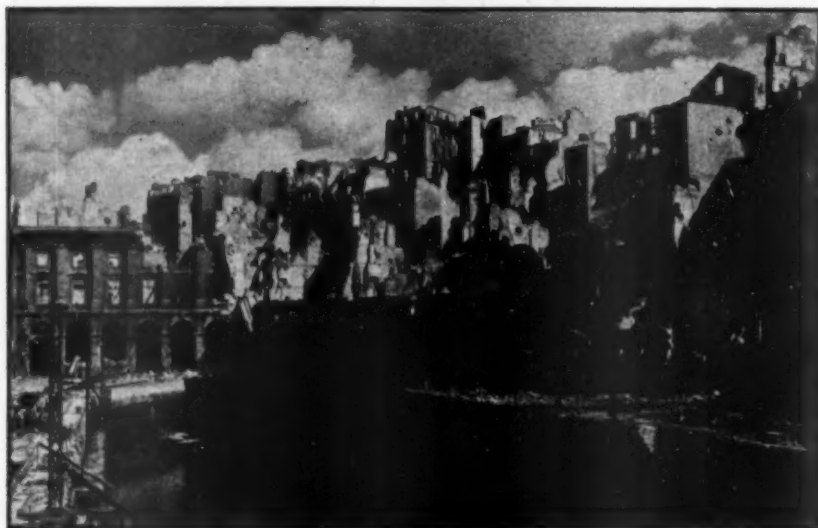
In addition, Brazil became an important way-stop on the air highway to Africa and the Middle East.

● **Building Encouraged Now**—In normal times, this remarkable increase in tourist traffic would have resulted in many new hotels, but wartime conditions impeded building; inflation has caused phenomenal rises in real estate values; building material costs have trebled; and building labor has been diverted to public and war works. A few new buildings and conversion of houses now gives Rio 81 "hotels."

The government has decreed measures to encourage hotel-building as soon as conditions permit. Hotels built in the next five years will be tax-exempt for five years, and free from the property-transfer tax. Builders may import materials duty-free provided similar Brazilian goods are not available.

● **Attractions Planned**—In addition, the states are taking measures to encourage tourists. Sao Paulo has appointed a committee to plan expenditures of \$10,000,000 on hotels, theaters, botanical and zoological gardens, and music and entertainment centers.

A new show hotel, Quitandinha, just outside Petropolis, Rio's summer resort, is nearing completion. Its cost is \$5,000,000. A wealthy Brazilian has drawn plans for a 40-story hotel, also in Rio, to cost \$5,000,000. Another private capitalist plans a 500-apartment hotel to be built at Rio's fashionable Copacabana resort. Two more hotels, with 500 and 100 apartments, respectively, are already under construction.



### NOT IN THE PLANS

A picture study in destruction, the ruins of Brest present graphic evidence why the French provisional government is revising its plans and needs for rehabilitation. The program was geared to the premise that the Germans would create a balance of de-

struction between urban centers and rural districts. But unexpected Nazi stands in Cherbourg and Brest went beyond all expectations—while the countryside escaped practically unscathed. Thus rehabilitation measures have been revamped to include machines, materials, and housing facilities chiefly to rejuvenate major ports.

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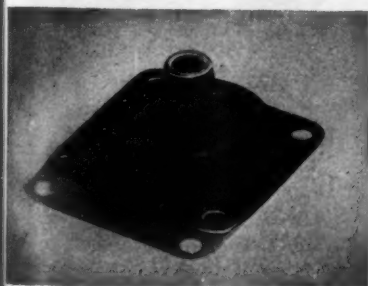
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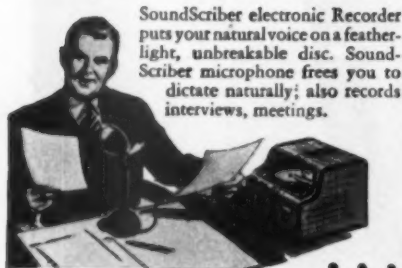
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# CANADA

## Unfettered Howe

Canada's delegate to the world conference on civil aviation shuns Empire talks to retain free hand at Chicago.

OTTAWA—Signs indicate that the Mackenzie King government figures that Canada will hold a pivotal position at the International Conference on Civil Aviation in Chicago next month (box, below) and that Canada is maneuvering to promote a compromise of any differences that may develop between British Empire and United States policies for postwar international control over air traffic.

• **Shuns Advance Deal**—Although Canada was the first to circulate a draft proposal for an international authority to govern international air transport, and so set the pattern which other Empire countries have adopted, Ottawa is as much opposed to anything that would look like a prearranged Empire front on air policy as it was to an Empire postwar

security bloc at the Empire conference in London last spring.

It is, therefore, significant that C. D. Howe, the Canadian delegate, who is Minister of Munitions & Supply and Minister of Reconstruction as well as Air Transport Minister, is not participating in the current Empire Air Conference in Montreal, which precedes the Chicago gathering.

• **Free Hand**—Howe's absence from Montreal leaves his hands free for action at Chicago, and relieves him from possible embarrassment at the Empire parley because Great Britain's postwar air proposals appear to be very similar to the draft plan submitted by Canada to other United Nations last March which Howe sponsored in Parliament.

• **Substantial Agreement**—Publication of the British proposals shows Empire countries to be in substantial agreement on postwar use of the air.

But Prime Minister King attaches importance to the special position assigned to Canada by Churchill early in the war as linchpin between the two sections of the English-speaking world. King did not hesitate to oppose the Empire solidarity proposals of Brit-

## Chicago Parley to Map World Air Routes

The Washington-inspired International Conference on Civil Aviation, which will open in Chicago Nov. 1, is expected to make arrangements for immediate establishment of provisional world air routes and services which would operate during a transitional period after Germany is defeated.

The importance of India in postwar world aviation plans is underscored by the arrival in the U. S. for the conference, and preliminary discussions at Montreal, of Sir Frederick Tymms (left in picture) director of civil aviation in India, and Sirdar Gurdial Singh, airdrome officer.

Delegates from 50 nations are also expected to establish an interim council—like that of the United Nations' Food Conference. Through this council the practical experience obtained during the transitional period would be studied with a view to making recommendations to any subsequent world conference for improving international air-transport, technical standardization, and uniform procedures. Later, it is hoped by the U. S. Dept. of State, a permanent



international air authority will be created, and a new multilateral aviation convention drafted.

Invitations have been sent to United and Associated Nations, and neutrals, such as Afghanistan, Portugal, Saudi Arabia, Spain, Switzerland, and Turkey. Argentina and Eire have been pointedly snubbed.

Lord Halifax and South Africa's Marshal Smuts on security policy, in trade matters he is prepared to give Empire preferences for multi-lateral treaties as favored by the Washington Administration.

In the same way, he is not prepared to have Canada stand out against the United States on the question of international air control in favor of a policy supported by the whole Empire even though Canada originated that policy.

## OVER THE TOP

Royal Canadian Mounted Police officer, the St. Roch, has arrived in Vancouver after an 86-day, 6,000-mile journey across the top of the world. The St. Roch left Halifax, N. S., intending to winter in Herschel but completed the circuit when



other and sea conditions proved favorable. This marks the third successful completion of the journey. The east-west trip was made by Roald Amundsen early in the century. The St. Roch traveled the west-to-east in a few years ago, taking 2½ years of the trip.

The St. Roch is a wooden, 80-ton cutter. It made numerous stops at Arctic points along the route to collect relics left by early explorers.

## PERMEN IN COALITION

A coalition of 98% of the Canadian paper manufacturing industry has been formed by formation of a joint executive board of the Canadian Pulp & Paper Assn. and the Newsprint Assn. of Canada.

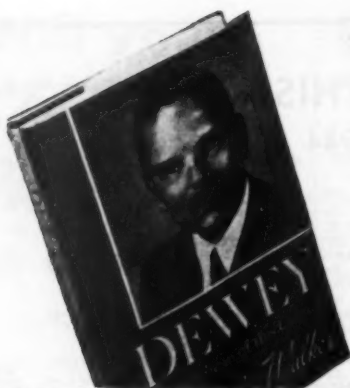
The joint board's main task is the conservation of Canada's forests, a problem requiring cooperation with provincial and federal departments. It will also act for the industry on other trade matters, and bring under a single authority a pulpwood committee, a post-war reconstruction committee, an innovation committee, the committee of controllers, and the woods labor task committee.

Membership of the joint board is equally divided between the two associations, with Charles Vining of the Newsprint Assn. as chairman, and Edward Smith of the Pulp & Paper Assn. as vice-chairman.

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# THE MARKETS

(FINANCE SECTION—PAGE 60)

The stock market's extended stretch of comparative somnolence and gradual price recovery was rudely broken up this week when an avalanche of selling orders suddenly made its appearance in the final hour of New York Stock Exchange trading on Monday and erased all the gains so laboriously recorded earlier this month.

• **Million-Share Day**—As a result of the turnover of almost 550,000 shares disclosed in the weak closing hour, the Big Board experienced its first million-share day in many weeks, and the retreat that ensued proved one of the broadest of any daily trading session this year.

There were some stocks, of course, that did manage to emerge unscathed from the wave of liquidation that took place Monday.

However, 721 of the 967 issues changing hands that day actually disclosed losses at the market's close, and even such pivotal blue chips as U. S. Steel and Bethlehem, General Motors and Chrysler, du Pont, Johns-Manville, Sears, Roebuck, U. S. Rubber, and American Smelting & Refining experienced drops ranging from 1 1/4 to more than 2 1/4 points.

• **One-Day Affair**—Fortunately for that segment of Wall Street's bullish brethren which had gone out on a limb by predicting to some clients that the stock market was about to start a serious testing of last summer's 1942-44 bull market highs, Monday's severe selling spell proved a one-day affair.

Nevertheless, by the middle of the week, the market's subsequent action hadn't provided them with any other very promising signs since the irregular slight recovery shown Tuesday was about

washed out by the generally weak displayed Wednesday.

Trading volumes also have returned to mediocre levels, and such interest has been evidenced in the market on Monday has been aimed mainly at ultraspeculative lower-priced group.

• **Reasons Ascribed**—This week's selling, according to many brokers, was largely caused by the selling of traders in over the market's continued inability to surpass last summer's highs.

Others, however, don't think that the only reason. Instead, they attribute part of the liquidation to renewed investor uncertainties over the domestic political situation, the possible duration of the war, and the unfavorable possibilities inherent in reconversion.

Professional traders, despite all the statistics to the contrary, remain skeptical concerning the current strength of the market as a whole.

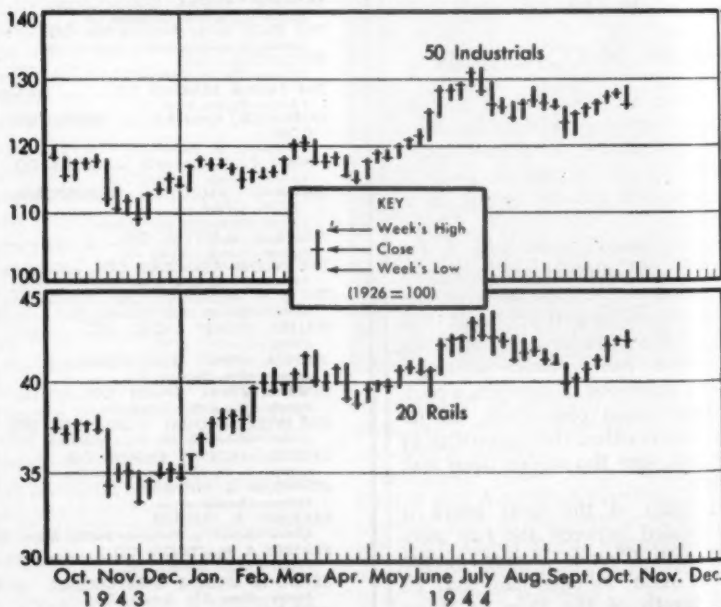
In fact, many in that group wonder what would have actually happened to prices on Monday if the severe selling spell that day had got under way considerably before the closing hour.

## Security Price Averages

	This Week	Week Ago	Month Ago
<b>Stocks</b>			
Industrial ...	126.1	128.0	125.6
Railroad ....	42.3	42.3	40.7
Utility .....	56.0	56.5	54.8
<b>Bonds</b>			
Industrial ...	119.5	120.1	119.8
Railroad ....	110.2	109.7	107.3
Utility .....	117.0	116.9	116.9

Data: Standard & Poor's Corp.

## COMMON STOCKS—A WEEKLY RECORD



Data: Standard & Poor's Corp.

© BUSINESS WEEK



# THE TRADING POST

## Savings

of the particular reconversion of the Pacific Coast has to do with the heavy immigration of war workers during the past few years. Already the tide has set in, and now business are asking how fast and how long it may run and how it is likely to affect the postwar Pacific Coast economy.

This piece has to do with only one of that many-sided question; i.e., what might happen to the wartime savings that have piled up in West Coast banks when their owners move on—into the future?

Bank of America, with its hundreds of California branches, has an exceptional stake in that subject. So it has been looking intensively into its possibilities.

The institution contends that there is no basis for the notion that increased savings accounts during the war years have been due to immigrant workers. Therefore, it concludes, there is no reason to expect that withdrawals by departing war workers should make much of a dent in the total.

\* \* \*

It argues that if the total increase in savings deposits had resulted from the warmer accounts, the total average account would have shown little change. But, as a matter of fact, a recent survey indicates that its average savings account has increased from \$550 in 1931, to \$775 at June 30, 1944, which suggests that virtually all the increase in savings deposits has come from the bulk of the permanent population.

Bank of America feels that its growth during the past few years, paralleling California in general, has merely been offset by a few years its normal expansion. During the prewar years, for example, it was swelling the number of savings accounts at the rate of one per 1,000 population. At the end of 1941 its savers numbered 212 per 1,000 population. At June 30, 1944, they numbered 212 per 1,000, just an expected normal of 198. Under normal prewar conditions the figure would have been reached sometime between 1947 and 1948.

The deposits of that bank increased from \$758,476,805 at Dec. 31, 1941, to \$1,762,039,399 at June 30, 1944. Of this gain of \$1,003,562,594, \$43,594 came from new population arriving in the state after 1941.

During that period, however, 1,379,769 individual prewar savings accounts showed an average increase per account of \$225, and during the same period, 193,050 new accounts from prewar population were opened.

If we should assume that all the new savings accounts opened in the bank by immigrant war workers were to be withdrawn in full at the end of war production, which is hardly to be expected, it would account for an estimated total of no more than \$100,000,000. It is possible that, contrary to the trend, other withdrawals might tend to reduce the average savings balances of permanent residents, but on its face, it does not look as though any contemplated withdrawal of savings by temporary war workers would have a substantial impact upon the California economy.

## What Is News?


A New York pastor recently sounded off as follows about newspapers that chronicle the slightest movements of public officeholders:

Why should government be so important? Government is supposed to be our servant, to carry out our wishes, to do the detailed work of state organizations. It is to keep order while the truly great men of the country do their creative work. The only salvation for America is to relegate the politicians to their proper sphere and the really great men of America to go to work to save their country.

This minister probably will get plenty of argument on his lumping of all politicians for the purpose of his sermon. But I think he has a point when he complains of the tendency to rate everything a politician says or does as news, just because he is an officeholder.

Almost every community, I suspect, suffers at least one town character who is always trying to do or say something that will get into print. His antics may give the reporters an occasional laugh, but they don't take him seriously. But let him once get elected to office, as he sometimes does, and the press in its desire to prove that it is nonpartisan solemnly reports his proceedings with the same thoroughness that it reports really important affairs.

A free press, I suppose, has an obligation to report the trifling along with the important. Efforts to discriminate often draw charges of bias. But the final responsibility always rests with the reader, who must determine what in the news is important and what may be dismissed as crackpot. W.C.

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# THE TREND

## PLAIN TALK ON ANGLO-U.S. RELATIONS

The time has come for plain speaking on the question of British-American economic relations after the war.

For some time there have been rumors in official quarters in Washington that "it may be necessary to curb United States export competition with the British in certain areas after the war until British manufacturers are back on their feet" (BW—Jul.29'44,p112).

Last week, in London, Sir George Schuster—a director of numerous British banks and business enterprises and a member of Parliament—brought this rumor to earth by openly proposing in the House of Commons that the United States consider curbing its postwar exports to "allow some leeway" for traders of other countries.

• And in the same vigorous parliamentary debate over postwar markets, Harcourt Johnstone, Secretary of the Dept. of Overseas Trade, reported that the British government had issued passports to hundreds of salesmen who have already left England to take orders for goods which will be delivered as soon as supplies are available.

Finally, Johnstone reported that his department had made surveys in 26 countries outside the battle area of Europe for a postwar "Buy British" drive, and that 140 exporting industries had been organized for the quickest possible trade drive after the war.

While London is thus practically expediting its postwar foreign trade plans, United States salesmen are cooling their heels in Washington until someone decides which of a half-dozen agencies is really responsible for returning foreign trade to private channels—and sees that something is done about it promptly.

And in the case of at least two important foreign markets, Argentina and Spain, Washington, in striking contrast with London, has deliberately stifled trade opportunities on the plea that to sell to these countries is to run the risk of allowing vital supplies to be transmitted to the enemy.

• Argentina is the outstanding example. Washington, undoubtedly with fact-packed dossiers to justify its stand, has aroused fierce resentment in the Argentine by tightening the economic screws on that blatantly profascist country. On the other hand, London, which is more or less dependent on Buenos Aires for its tenuous wartime meat supplies, has refused to coerce this important supplier. As a result, both the fascists and the antifascists are turning against the United States, the fascists for obvious reasons, the antifascists because they believe that Washington is "talking big" but failing to back up its words with decisive and effective action. British commercial interests in Buenos Aires, meanwhile, quietly insinuate to their Argentine friends that they are doing nothing more toward upsetting the local economic apple-

cart than is absolutely required by their United States allies.

The situation in Spain is similar. For eight years, Spain has been virtually cut off from American trade, although during the past twelve months Madrid has dangled contracts before the War Production Board without getting so much as a nibble. But the British, as the Spaniards eagerly point out, have maintained throughout the token shipments of even such scarce items as new machinery, and have enlarged their commercial connections in Spain in preparation for a full-blown trade drive as soon as controls are lifted (page 109).

• The issue has thus been drawn and in some way must be resolved, for now is no time for a breach in the Anglo-American economic front. The last battles have not been fought in either Europe or the Far East. A satisfactory plan for rehabilitating Europe's economy has been drawn. France needs to be helped back on its feet—both politically and economically. And China, along with India, needs more supplies than either Britain or the United States can readily supply in a hurry.

Britain needs desperately to recapture its foreign markets. London is no longer a creditor nation; it has a huge war debt. Somehow, according to the financial experts, it must boost exports 50% above prewar levels if it is to carry this enormous new debt burden.

The United States must recognize this changed situation in England and do what it can to help London solve its problem. World business will not function satisfactorily if Britain is in trouble economically.

But the problem will not be solved by giving British salesmen preferences denied to others, by attempting to control world markets at the diplomatic level. That would demand a system of regulated foreign trade which London refused to recognize in the past. American business refuses to accept it now.

• Anglo-American industries performed a productive miracle during this war because they worked in the closest cooperation and with a steady interchange of personnel and ideas.

The return to peacetime trade competition on a satisfactory basis for both countries will be accomplished only if the same cooperative arrangement prevails. Privileges for one party become penalties on the other. London's recent proposals should be thoroughly discussed with American businessmen—not solely with Washington. A compromise, acceptable to both countries, can be reached. Without it, postwar trade will be off to a bad start which bodes ill for everyone.

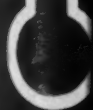
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